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This is an informative report to document intern research.

TABLE OF CONTENTS

Table of Contents	2
Acronyms	6
Preface.....	9
Executive Summary	10
Observations	10
Findings.....	11
Recommendations for Further Research.....	12
Introduction.....	13
Department of Defense	16
Overview.....	16
United States Strategic Command	17
Geographic Combatant Commands	18
Defense Threat Reduction Agency	20
USSTRATCOM Center for Combating Weapons of Mass Destruction	22
Defense Technology Security Administration.....	23
Department of Commerce	26
Department of the Treasury	31
The Financial Crimes Enforcement Network	32

The Office of Foreign Assets Control.....	36
The Office of Intelligence and Analysis	38
Office of Terrorist Financing and Financial Crime	38
The Treasury Executive Office for Asset Forfeiture	39
Department of State	40
The Bureau of Arms Control, Verification and Compliance	40
The Bureau of International Security and Nonproliferation	43
The Bureau of Political-Military Affairs	48
Intelligence Community	50
National Counterproliferation Center	51
Department of Justice	55
Department of Homeland Security.....	57
Department of Energy	60
Department of Health and Human Services.....	65
Office of the Assistant Secretary for Preparedness and Response	66
ASPR Biological Weapons Nonproliferation and Counterterrorism Branch	69
The Centers for Disease Control and Response:.....	69
The Office of Public Health Preparedness and Response.....	69

Health and Human Services: State Level.....	70
United States Army Medical Research Institute of Infectious Diseases.....	71
Nonproliferation: Gaps	72
Differing Approaches to Countering Proliferation	72
FSU Nonproliferation Programs	75
Security Clearances.....	76
Health and Human Services: Collaborative Nonproliferation Efforts	78
Export Controls: Gaps and Overlaps	83
Control Lists.....	84
License Processing.....	89
Export Enforcement	90
Restricted Persons and Entities Lists	93
Cooperative Threat Reduction: Gaps	96
Counterproliferation: Gap/Overlap.....	99
Gap	100
Overlap.....	102
Recommendations	103
Summary.....	105

Works Cited.....	106
About the Authors.....	118

ACRONYMS

ACE	Areas for Capability Enhancements
AECA	Arms Export Control Act
AML/CTF	Anti-Money Laundering and Counter-Terrorist Financing
AOR	Area of Responsibility
AVC	Bureau of Arms Control, Verification, and Compliance
BIS	Bureau of Industry and Security
BSA	Bank Security Act of 1970
BTR	Biological Threat Reduction
BWC	Biological Weapons Convention
CCL	Commerce Control List
CDC	Centers for Disease Control and Prevention
CFE	Conventional Forces in Europe
CIA	Central Intelligence Agency
CM	Consequence Management
CP	Counterproliferation
CPC	Counterproliferation Center
CPIB	Counterproliferation Integration Board
CPRC	Counterproliferation Program Review Committee
CSART	Combat Support Agency Review Team
CSBM	Confidence-and Security- Building Measures
CJCS	Chairman of the Joint Chiefs of Staff
CTR	Cooperative Threat Reduction
CWC	Chemical Weapons Convention
CWMD	Combating Weapons of Mass Destruction
DDTC	Directorate of Defense Trade Controls
DHS	Department of Homeland Security
DIA	Defense Intelligence Agency
DNDO	Domestic Nuclear Detection Office
DoD	Department of Defense
DoE	Department of Energy
DoJ	Department of Justice
DoS	Department of State
DTCL	Defense Trade Controls Licensing
DTRA	Defense Threat Reduction Agency
DTSA	Defense Technology Security Administration
EA	Export Administration
EAR	Export Administration Regulations
ECR	Export Control Reform

EE	Export Enforcement
EXBS	Export Control and Related Border Security Assistance
FATF	Financial Action Task Force
FBI	Federal Bureau of Investigation
FinCEN	Financial Crimes Enforcement Network
FIU	Financial Intelligence Act
FSU	Former Soviet Union
GCC	Geographic Combatant Commands
GEF	Guidance for the Employment of the Force
HEU	Highly Enriched Uranium
HHS	Department of Health and Human Services
HSAC	Homeland Security Advisory Council
IC	Intelligence Community
IT	Information Technology
ICE	US Immigration and Customs Enforcement
ICP	International Counterproliferation Program
IPP	Initiatives for Proliferation Program
IRS-CI	Internal Revenue Service Criminal Investigation Division
ISN	Bureau of International Security and Nonproliferation
ISTC	International Science and Technology Center
ITAR	International Traffic in Arms Regulations
JCS	Joint Chiefs of Staff
JIACG	Joint Interagency Coordination Group
NA	Nuclear Affairs
NBC	Nuclear, Biological and Chemical
NCPC	National Counterproliferation Center
NNCP	Non-Nuclear and Counterproliferation
NCTC	National Counter-terrorism Center
NDF	Nonproliferation Disarmament Fund
NEECN	National Export Enforcement Coordination Network
NGA	National Geospatial-Intelligence Agency
NIS	Office of Nonproliferation and International Security
NP	Nonproliferation
NPP	Nonproliferation Programs
NPTC	Office of Nonproliferation and Treaty Compliance
NRO	National Reconnaissance Office
NRRC	Nuclear Risk Reduction Center
NSA	National Security Agency
NSC	National Security Council
NSTTC	Office of National Security and Technology Transfer Controls
OC	Operating Committee on Export Policy

ODNI	Office of the Director of National Intelligence
OEA	Office of Enforcement Analysis
OEE	Office of Export Enforcement
OExS	Office of Exporter Services
OFAC	Office of Foreign Assets Control
OIA	Office of Intelligence and Analysis
OSD	Office of the Secretary of Defense
OST	Office of Secure Transportation
PM	Political-Military Affairs
PSA	Project Shield America
PSI	Proliferation Security Initiative
SCC-WMD	USSTRATCOM Center for Combating Weapons of Mass Destruction
SecDef	Secretary of Defense
SDN	Specially Designated Nationals List
START	Strategic Arms Reduction Treaty
STCU	Science and Technology Center
S&T	Science and Technology
TEOAF	Treasury Executive Office for Asset Forfeiture
TFF	Treasury Forfeiture Fund
TFFC	Office of Terrorist Financing and Financial Crime
TFI	Office of Terrorism and Financial Intelligence
TSC	Theater Security Cooperation
UCP	Unified Command Plan
US	United States
USA PATRIOT Act	Uniting and Strengthening American by Providing Appropriate Tools to Restrict, Intercept and Obstruct Terrorism Act of 2001
USAMRIID	US Army Medical Research Institute for Infectious Diseases
USML	US Munitions List
USSR	Union of Soviet Socialist Republics
USSTRATCOM	United States Strategic Command
WMD	Weapons of Mass Destruction
WMDD	Weapons of Mass Destruction Directorate

PREFACE

This report is the product of the United States Strategic Command (USSTRATCOM) Mission Assessment and Analysis Directorate (MAAD) internship program. A team of graduate and undergraduate students from the University of Nebraska-Lincoln, University of Nebraska-Omaha, and Creighton University worked together to provide this multidisciplinary, unclassified comprehensive report.

The spring 2011 CWMD team was tasked to consolidate a view of the formal roles and interactions between various United States (US) government organizations regarding counter-(CP) and nonproliferation (NP) of weapons of mass destruction (WMD). The team was also tasked to determine which US government organizations were the primary actors within the interagency process to combat WMD. Additionally, the team researched the roles of those organizations in implementing CWMD efforts as well as the communication gaps and/or overlaps in responsibility that existed between them.

This project took place between January and May of 2011, with each team member working eighteen to twenty-four hours per week. While the MAAD provided the resources and technology for the project, development of the project design, conducting research and analysis, and providing recommendations were left solely up to the team.

EXECUTIVE SUMMARY

The team was tasked to create a consolidated view of the formal interactions between various organizations in regards to CWMD. The focuses are on NP, Export Control, Cooperative Threat Reduction (CTR), and CP. The team examined the formal interactions of the organizations with any potential gaps and overlaps that may exist between them.

Observations

The team was allotted fourteen weeks to conduct research, provide an executive briefing to the US Strategic Commander and staff, as well as write a comprehensive report. The team's research was conducted through interviews with academia and experts in both public and private sectors.

After conducting research through interactions with over fifty subject matter experts, as well as extensive literature reviews from both US and international sources, the team derived the following questions: (1) Which US government organizations are the primary actors that combat WMD, (2) What role(s) do they play in implementing CWMD efforts, and (3) What gaps and overlaps in responsibility exist between them?

Findings

The team found several gaps and overlaps throughout the research. One gap is the IC's focus on current intelligence produces a lack of insight into motives and intent to proliferate WMD. In the past, the focus has not considered predictive analysis on motives and intentions for proliferation, which does not allow for mitigating surprise. Another gap the team found was DoD allocates resources on CP at the expense of NP. There is a shift occurring within the DoD to better balance NP and CP operations, but this shift has created certain gaps that need to be filled. Additionally, DoD, DHS, and HHS lack reciprocity for security clearances and information-sharing. There needs to be a streamlined, collaborative security clearance system that would increase the probability for efficient and comprehensive threat reduction strategies. Finally, coordination on planning, programming and budgeting is inadequate. While there has not been a recent report to follow up on these findings, steps have been taken on the part of DoD to mitigate this problem, the specifics are unknown to the team because of classified information.

The team found three major overlaps between the organizations examined. While the team recognizes that there are beneficial overlaps, these three prove to be problematic. First, exporting licensing departments occasionally disagree as to the classification of an item or whether an export license should be granted, and the dispute settlement mechanism currently in place is inadequate. Second, the consolidation of the restricted entities and persons lists only serves as an additional list for exporters to consult before obtaining a license. This inefficient process costs exporters valuable time and money. Finally, separate CP intelligence centers dilute

coordination efforts. This creates redundancy in CP efforts since National Counterproliferation Center's (NCPC) original mandate was to coordinate all CP-related intelligence.

Recommendations for Further Research

The team makes the following further research suggestions:

- Using predetermined scenarios, evaluate organizations' definitions and interpretations of their roles across US government CWMD efforts
- Review/analyze US agencies' roles with international partners
- Evaluate US consequence management (CM) efforts

INTRODUCTION

“In 2002, the National Security Council (NSC) recognized the change in our greatest threat to the nation and prepared the first comprehensive strategy to limit the dangers posed by Weapons of Mass Destruction” (Terrell Abstract). A WMD event has the potential to place the lives of hundreds of thousands of people at risk, including animals and plants, as well as deplete critical resources. The economic cost of a single WMD event could exceed one trillion dollars (US \$). Societal and political consequences could ensue as well: the US way of life and the public’s trust in government would be compromised (National Security Council 1).

A number of US government organizations are currently involved in CWMD missions to protect against such outcomes. While independent endeavors successfully operate in each organization, coordination efforts not only make apparent where gaps and overlaps in CWMD exist, but also what steps can be taken to improve the chances of success in the national CWMD mission. Synchronization strategies can continually be improved to ensure all elements of national organizational power are being unified and effectively utilized.

Given the project description and assistance from experts, the team derived the following research questions on which this paper is based: which US government organizations are the primary actors within the interagency process to combat WMD? What role do they play in implementing CWMD efforts? What communication gaps or overlaps in responsibility exist between them? The strategic framework of this paper focused on the pillars of NP and CP. While

CM is no less important, the team wished to address strategies that keep adversaries from acquiring WMD rather than a reactive approach.

The team aimed to review current collaborative efforts among US organizations, identify what is working well, and what aspects could be improved upon. With the numerous governmental organizations with CWMD missions, overlaps are to be expected. However, overlaps that exist as vulnerabilities include unnecessarily redundant efforts. The team identified the theme that when multiple organizations are responsible for the same mission, a loss of centralized command can occur and results can be diluted. Communication gaps prosper in modern times as well. For example, the prioritization and organizational delegation of emerging NP and CP motives could be improved. Gaps can also occur secondarily as a result of shifting resources. Additional examples of identified communication gaps involve differing classification criteria and barriers to the timely sharing of resourceful data between departments. Coordination vulnerabilities should be identified and addressed proactively, rather than discovered as the result of an adverse event.

The paper is organized in the following way: First, a description of selected US government departments' sub-divisions responsible for CWMD efforts is provided. The specific US organizations highlighted in this paper include: the Department of Defense (DoD), the Intelligence Community (IC), the Department of State (DoS), the Department of Energy (DoE), the Department of Homeland Security (DHS), the Department of Health and Human Services (HHS), the Department of Commerce (DoC), the Department of the Treasury (Treasury), and the

Department of Justice (DoJ). These organizations were selected as the focus of this paper based on their unique and leading roles in the US efforts to combat WMD.

The paper continues with a description of interagency communication gaps and overlaps. The four areas of NP, export control, CP, and CTR have been selected to frame the team's gaps and overlaps research analysis. While the team has identified overlaps within interagency efforts, the team recognizes that not all overlaps are problematic. Some are necessary for effective CWMD collaboration. Successful collaborative efforts of each US organization will be addressed as well. Based on the team's analysis, recommendations for improved US government CWMD collaboration will be offered at the conclusion of this paper, along with suggestions for further research.

DEPARTMENT OF DEFENSE

Overview

DoD's involvement in CWMD extends across all three pillars as defined in the National Strategy to Combat Weapons of Mass Destruction. However, DoD understands that its actions alone will not suffice to combat WMD in a comprehensive manner. DoD actively pushes for a more integrated, whole-of-government approach to combat WMD. As stated within the Counterproliferation Program Review Committee (CPRC) Report in 2009, the key elements to the DoD's approach include, "maintaining a strong deterrence capability; developing capabilities to characterize, destroy, and interdict the production, transfer, storage and weaponization of WMD..." DoD possesses the power to create CWMD policy; however, it relies on several agencies within the department to truly execute its mission. DoD's role is considered national guidance, providing insight in regards to CWMD efforts while also possessing the power to fund and allocate money to various interdepartmental agencies in pursuit of CWMD capabilities. The responsibility of national guidance calls upon DoD to interact with various agencies and departments in order to properly lay the foundation and build upon CWMD efforts.

The Office of the Secretary of Defense's (OSD) job is to develop, coordinate, and oversee the implementation of DoD policy. To build upon that foundation, the Chairman of the Joint Chief of Staff (CJCS) serves as the principal military advisor to the President for the NSC,

as well as the Secretary of Defense (SecDef) on issues concerning CWMD. The Joint Chiefs of Staff (JCS) work closely with the Geographic Combatant Commands (GCC) and the armed services to ensure CWMD efforts are executed in compliance within their respective area of responsibility (AOR), domestic, international, and foreign laws, policies, treaties, and agreements (JP 3-40 44). The CJCS is an advocate for interagency support by taking requests from US federal departments, as well as requests by the GCCs to the SecDef, where the decisions can be made at as his discretion. Only after the SecDef approves a CJCS request can the CJCS publish appropriate execution orders for CWMD activities (JP 3-40 44). Within DoD, USSTRATCOM as well as the GCCs aid the department in combating WMD.

United States Strategic Command

CWMD efforts require the USG, GCCs, and their staffs to coordinate and integrate with *all* instruments of government in order to establish which agencies bring the best capabilities to meet the objective. The 2011 Unified Command Plan (UCP) tasks USSTRATCOM with the responsibility to globally synchronize CWMD planning and advocate for CWMD capabilities. Due to the fact that all departments and agencies bring various skill sets and intelligence to the table, the job of synchronization tasked to USSTRATCOM is vital.

USSTRATCOM plays a large role when it comes to the aspect of coordination between DoD agencies concerning CWMD. USSTRATCOM receives its authority through Title 10 of the United States Code, and finds itself working closely with the OSD and the CJCS to align DoD's

CWMD efforts. USSTRATCOM develops and makes recommendations to the CJCS regarding integration for CWMD efforts. The CJCS then seeks the OSD's approval, and once OSD approves CJCS request, USSTRATCOM can then advocate for capabilities it desires or feels necessary to complete its global mission or support those with the same mission. Additionally, since USSTRATCOM has been tasked with the global mission to combat WMD, it is important that USSTRATCOM be granted the adequate authorities to exercise this mission, especially within an individual GCC's AOR. Moreover, USSTRATCOM, in its pursuit to effectively synchronize CWMD efforts, created the USSTRATCOM Center for Combating Weapons of Mass Destruction (SCC-WMD). Although USSTRATCOM has a global mission, it does not necessarily possess all the expertise needed to fulfill its mission; hence, SCC-WMD, whose sole mission is dedicated to WMD and to help USSTRATCOM better facilitate synchronization between agencies and DoD. USSTRATCOM also utilizes and relies on the efforts of the Defense Threat Reduction Agency (DTRA) to help fulfill its role as the global synchronizer. USSTRATCOM, SCC-WMD, and DTRA all collaborate together, with the understanding that each component has the unique potential to support DoD and its overall CWMD mission.

Geographic Combatant Commands

The 2011 UCP tasks USSTRATCOM with the responsibility of global synchronization; it also states that the plans decided on by USSTRATCOM concerning CWMD need to be executed in coordination with the GCCs. The six GCCs are: Africa Command, European Command, Central Command, Northern Command, Pacific Command, and Southern Command. Former US

Ambassador Edward Marks, who also served as a Deputy US Representative to the United Nations, defines the GCCs essential two tasks as war planning and fighting, and military engagement programs (Marks 19). As Marks sees it, even those these tasks are given to the GCCs, he feels strongly that both tasks still remain and will always remain, fundamental responsibilities of the DoD and the military services (Marks 19). The GCCs derive their separate authorities and chain of command framework through Title 10 of the United States Code. Within DoD's chain of command, the GCCs are directly responsible to the President and the SecDef for their performance of missions assigned to them by the President. The CJCS acts as an advocate for the GCCs; he is assigned the responsibility of overseeing the activities of the GCCs and periodically reviews them. After an analytical review the CJCS recommend[s] to the President, through the Secretary of Defense, any changes that [need to be made] to such missions, responsibilities, and force structure as may be necessary (10 USC Sec. 161. b.B.). Although this responsibility is given to the CJCS by the SecDef, it does not confer any command authority on the CJCS nor does it alter the responsibilities of the GCCs; direct authorities for the individual GCCs are addressed in chapter six of Title 10 of the United States Code. GCCs may reference chapter six with any questions regarding their authority, specifically when it comes to such aspects as: establishment, assigned forces, chain of command, assignments, powers, duties, command authority, administration and support, and budget proposals. (10 USC Sec. 161-167). As far as CWMD is concerned, the GCCs coordinate with the OSD and the Joint Staff to execute their CWMD missions in accordance with the DoD's intent. When applicable, the GCCs develop

threat reduction and cooperation plans with the help of DTRA, which allows for more effective CWMD planning.

Defense Threat Reduction Agency

DTRA was created in 1998, which makes it DoD's youngest agency, but this does not reflect the significance and importance the agency has acquired over the past decade. DTRA has been evaluated as one of few, if not the only, agencies that has shown the requisite willingness and ability [to combat WMD], consistently and across the board (Carter-Joseph 3). In DoD's chain of command, it is located under the Assistant Secretary of Defense for Nuclear, Chemical and Biological Defense Programs, which is located under the Under Secretary of Defense for Acquisition, Technology and Logistics (DTRA.mil). DTRA is DoD's main support agency to combat WMD. Several departments across the interagency have sought out DTRA's expertise on WMD-related issues, but DTRA also coordinates with other agencies within DoD, including USSTRATCOM, SCC-WMD and the GCCs. DTRA has seven specific missions it is tasked to carry out, which has made it a popular agency within DoD to coordinate with since they have gained the necessary expertise and information to spread across the interagency. These seven missions are: the Nunn-Lugar Global Cooperative Initiative; arms control and treaty verification; chemical and biological defense; CM; nuclear deterrence, defense and forensics; and reachback. The Nunn-Lugar initiatives DTRA is mainly responsible for are the CTR and Biological Threat Reduction (BTR) Programs, both of which are mostly concentrated on former Soviet Union (FSU) states, but are being considered for expansion beyond the FSU. DTRA mainly coordinates

with DoS on both CTR and BTR, which has a specific division on CTR under the Bureau of International Security and Nonproliferation (ISN). They also coordinate with HHS on BTR, a program that is also included in DTRA's chemical and biological defense initiatives.

DTRA/SCC-WMD Director Kenneth Myers stated in testimony to the House Armed Services Committee on 14 April 2010 that BTR efforts were also being expanded to support GCC awareness of dangerous disease outbreaks and biological attacks.

DTRA participates in arms control verification of two major treaties/programs: the Strategic Arms Reduction Treaty (START I, II and consequently, the New START treaty) and the International Counterproliferation Program (ICP). They coordinate with DoE on arms control and inspection for New START, and according to DTRA/SCC-WMD Director Myers in testimony to the Senate Foreign Relations Committee on 24 June 2010, DTRA will lead the inspection teams in Russia. It is also DoD's executing agency of the ICP, as DTRA leads interagency teams to FSU states and other regions of specific interest to the GCCs. They also provide training to DoD staff and staff from other federal departments, as well as education to officials in thirty nations who are beginning or continuing work on CWMD efforts under the auspices of the ICP. By gathering and analyzing information about a country's weapons status, DTRA is able to establish whether or not a nation is in compliance of treaties in place, ensuring the integrity of our diplomatic agreements and preserving the safety of the [US] and its allies around the world (DTRA.mil). While CM was not part of the scope of this project, DTRA maintains a dozen Consequence Management Advisory Teams that could be deployed to support

several other federal departments in the case of a WMD-related incident. In any event, DTRA's work on the Nunn-Lugar Initiative as well as arms control and treaty verification has created an environment of coordination amongst the interagency as well as within DoD.

As previously mentioned, DTRA closely coordinates not only with the interagency but also within DoD. This is not surprising considering the size and sheer number of divisions that are housed within DoD. One division within DoD that DTRA works frequently with is SCC-WMD, which is co-located with DTRA in Ft. Belvoir, VA. They also coordinate with USSTRATCOM as well as the GCCs in trying to implement their Theater Security Cooperation (TSC) initiatives.

USSTRATCOM Center for Combating Weapons of Mass

Destruction

The SCC-WMD is an apparatus of USSTRATCOM whose sole focus is to combat WMD. General James Cartwright created SCC-WMD in 2005 as a way to optimize the execution of USSTRATCOM's mission to integrate and synchronize DoD's efforts to combat worldwide WMD in support of US government objectives (Cartwright 1). As previously mentioned, it is co-located with DTRA at Ft. Belvoir, VA, as a way for both agencies to leverage and utilize one another's expertise and mission in order to more efficiently streamline DoD's CWMD efforts. SCC-WMD also advises the GCCs on WMD-related matters, such as creating a Proliferation Security Initiative (PSI) Support Cell that helps coordinate and plan DoD and US

government participation in PSI activities. The PSI, while not a formal/institutionalized body, has been effective in coordinating interdiction capabilities between the US and 92 other partner nations across the globe.

While SCC-WMD plays a major role in coordinating and integrating PSI-related activities within DoD, it does not have the lead in carrying these out. According to Col Theresa Pitts of SCC-WMD, it is only considered to be a support agency that operates at the direction of the Commander of USSTRATCOM. This is also reflected on SCC-WMD's website, specifically discussing its PSI Support Cell, calling for supporting the GCCs on their TSC initiatives, as well as supporting the Joint Staff and the Office of the Secretary of Defense in planning and executing PSI initiatives (STRATCOM.mil). This does not diminish the importance of SCC-WMD as USSTRATCOM's executing agency to integrate and synchronize CWMD efforts, but it is an important distinction to be made in order to better understand each of DoD's agencies roles in combating WMD.

Defense Technology Security Administration

Within DoD, the Defense Technology Security Administration (DTSA) is responsible for "all matters related to export control" (US Senate 1). To fulfill its mission to promote "national security interests by protecting critical technology while building partnership capability" (DTSA.mil), DTSA employs 200 military, career civil service, and contractor personnel to review export licenses (US Senate 2). DTSA is divided into six directorates overseen by a

Director and Deputy Director. Four of the six directorates contribute to CWMD efforts through export control: Licensing Directorate, Policy Directorate, Technology Directorate, and International Security. The Licensing Directorate reviews approximately 30,000 export licenses and commodity jurisdiction requests annually and provides a recommendation on behalf of DoD (DTSA.mil). DTSA offers its technical expertise to the license review process, while balancing national security interests and DoD technology/licensing initiatives. This directorate also represents the DoD in a number of multinational export control regimes, such as the Australia Group, Missile Technology Export Committee, and Nuclear Suppliers Group, and builds relationships with industry through outreach regarding new technology/licensing initiatives (DTSA.mil).

The Policy Directorate develops and monitors the technology security policy of exported technology, goods, and services. The Policy Division within this directorate represents the DoD in the Wassenaar Arrangement and is responsible for providing recommendations consistent with proliferation export control regimes. The Assessments Division communicates with the IC, interagency Working Groups, law enforcement agencies, Military Services and Combatant Commanders in a variety of export control tasks, such as intelligence analysis and end-use and end-user verification (DTSA.mil).

The Technology Directorate employs military scientists and engineers with knowledge of DoD acquisition programs and the US defense industry to provide comprehensive technical evaluations of export license applications (US Senate 1). This directorate also submits an

assessment of ITAR and EAR national security implications. Also contributing to this discussion is the International Security division within DTSA, which develops and provides “policy advice on sections of the [ITAR] that deal with the security and the export of classified defense articles and technological data” (DTSA.mil). Additionally, International Security serves as the DoD liaison to foreign government officials and implements US national policy concerning military information and materials to foreign governments and international organizations (DTSA.mil).

DEPARTMENT OF COMMERCE

DoC seeks to grow American businesses domestically and abroad. To this end, its responsibilities are far-reaching and include the areas of trade, technology, economic development, environmental stewardship, and statistical research and analysis (Commerce.gov). The Secretary of Commerce operates with a \$6.5 billion annual budget and approximately 38,000 employees (Commerce.gov). DoC is comprised of twelve different agencies that perform a vast number of tasks such as providing weather forecasts, applying the decennial census, and patent and trademark business protection. Only one agency, however, addresses CWMD issues.

The Bureau of Industry and Security (BIS) advances US national security, foreign policy, and economic objectives by ensuring an effective export control and treaty compliance system (BIS.doc.gov). The Commission on the Intelligence Capabilities of the US touted the importance of certain mechanisms within BIS, such as inspections, export licenses, [and] good working relationships with industry, because they provide valuable intelligence and opportunities for CWMD efforts (BIS.doc.gov). The BIS is divided into Export Administration (EA) and Export Enforcement (EE). EA maintains the licensing system, established by the Export Administration Regulations (EAR), and the export control laws concerning dual-use items. EE efforts concentrate on investigating violations and aiding criminal and administrative prosecutions of export control violations. The BIS maintains three separate lists of foreign persons and

companies subject to export and trade restrictions: Denied Persons List, Unverified List, and Entity List. Each list will be addressed within a discussion of its relevant office.

Under the supervision of EA are five offices that promote CWMD efforts. The Office of Nonproliferation and Treaty Compliance (NPTC) contains four divisions that are “responsible for all policy actions, export licenses, commodity classifications, and advisory opinions pertaining to items subject to nuclear, missile technology, chemical and biological export controls” (Bureau of Industry and Security 3). The Nuclear and Missile Technology Division and the Chemical and Biological Controls Division administer export controls established by international obligations, such as the Chemical Weapons Convention (CWC), the BWC, and the Safeguards Agreement Additional Protocol. The Treaty Compliance Division (TCD) advises US companies regarding compliance with export controls and US international obligations. For example, TCD counsels the exporting community on CWC regulations and helps prepare exporting companies’ facilities for inspection. In addition, members of the divisions within NPTC serve as DoC representatives in numerous international agreements, such as Nuclear Suppliers Group, Missile Technology Control Regime, Australia Group, and CWC. The Foreign Policy Division deals with export and re-export controls that further US foreign policy objectives. They impose anti-terrorism export controls, trade sanctions, human rights concerns, regional stability, and process license applications for items restricted due to foreign policy concerns (Bureau of Industry and Security 4).

The Office of National Security and Technology Transfer Controls (NSTTC) oversees the implementation of domestic and multilateral export controls, such as the Wassenaar Arrangement. Each of the nine categories within the Commerce Control List (CCL) is assigned to one of the three divisions within NSTTC. The Deemed Exports and Electronics Division deals with CCL categories 0-3. A “deemed” export is one that transfers technology to a foreign national located within the US Categories 4 and 5, which include telecommunications and high performance computers, are under the control of the Information Technology (IT) Controls Division. The Sensors and Aviation Division is assigned Categories 6 through 9, which include aircraft and thermal imaging equipment (Bureau of Industry and Security 5).

The Office of Exporter Services (OExS) offers support to the exporting community by conducting seminars and other outreach events to help exporters comply with EAR. This office also develops and drafts new EAR. OExS also reviews entities recommended for inclusion on the Entity list (Bureau of Industry and Security 8). The Entity List, formed in 1997, imposes additional license requirements for certain suspect foreign companies, by eliminating license exceptions for purchasers on the list. The aim is to single out specific business entities to change certain business practices. The Entity List was developed to address the increased risk of the diversion of exported, re-exported and transferred (in-counter) items to weapons of mass destruction (BIS.doc.gov). Currently, the list has approximately 200 entities on it (US House 2010 4).

The Operating Committee on Export Policy (OC) provides a dispute settlement mechanism for interagency conflicts that arise concerning license applications. OC is led by an independent arbiter, but is also composed of both voting and non-voting members on the committee. Voting members include the Departments of Commerce, State, Energy, Defense, and Justice. The Joint Chiefs of Staff, the IC, and other relevant US government agencies may attend and speak at OC meetings but are not allowed to vote (Bureau of Industry and Security 9).

The BIS Office of Export Enforcement (OEE) works with US exporting community and foreign government official to prevent and investigate EAR violations. Two sub-divisions within the OEE are relevant to this CWMD discussion. The Office of Enforcement Analysis (OEA) supervises all facets of preventative enforcement efforts within their [geographic] area of responsibility (Bureau of Industry and Security 12). Three divisions supervise Middle East/Russia, China/Hong Kong, and South Asia/Europe. Their responsibilities include screening license applications, reviewing visa applications, initiating pre- and post-export verification, and reviewing the Automated Export System for potential violations (Bureau of Industry and Security 11). OEA is also tasked with maintenance of the Denied Persons List. Exporters who deal with persons on this list must comply with the denial order imposed on the foreign purchaser; a denial order can either be “standard” or “non-standard”. Standard denial orders follow a particular format and content, which may be found on the Denied Persons List website. Non-standard orders, however, have their specifications published in the *Federal Register* (BIS.doc.gov).

The Office of Export Enforcement is the principle US law enforcement agency for dual-use export enforcement (Bureau of Industry and Security 10). OEE works with industry and other US agencies to interdict items before they leave the US and to investigate export control violations; two divisions within the OEE carry out these tasks. The Investigations Division—comprised of Special Agents in field offices located across the US—reviews records, interviews witnesses, executes search warrants, seizes goods, and makes arrests (Bureau of Industry and Security 11). The Operations Division, located at OEE Headquarters, coordinates between the IC and OEE’s field offices. OEE also employs Export Control Officers, located in US embassies in Beijing, China; Abu Dhabi, the United Arab Emirates; New Delhi, India; Moscow, Russia; Hong Kong; and Singapore, to conduct end-use checks (US House 2010 5). A foreign purchaser whose compliance with export controls is suspect are placed on the Unverified List, which basically means the person or entity has been “red flagged.” This could occur because of the absence of a pre-license check or post-shipment verification (BIS.doc.gov). Exporters that find their potential purchasers on this list must reconcile the “red flag” before proceeding with the transaction (Export.gov).

DEPARTMENT OF THE TREASURY

The US Treasury's mission is to maintain a strong economy and create economic and job opportunities by promoting the conditions that enable economic growth and stability at home and abroad, strengthen national security by combating threats and protecting the integrity of the financial system, and manage the US Government's finances and resources effectively (Treasury.gov). To achieve its mission, Treasury is divided into departmental offices and operating bureaus. The departmental office of Secretary of the Treasury serves as a major policy advisor to the President and is responsible for formulating and recommending domestic and international financial, economic, and tax policy (Treasury.gov). The Secretary acts as the financial agent for the US Government [and] carries out certain law enforcement responsibilities (Treasury.gov). The Deputy Secretary and the Treasurer of the US assist and advise the Secretary in these duties.

There are 12 operating bureaus within the Treasury, but only one is designated to CWMD efforts. The Office of Terrorism and Financial Intelligence (TFI) is the lead office in the Treasury Department for fighting the financial war on terror, combating financial crime, and enforcing economic sanctions against rogue nations (Department of the Treasury.gov). TFI's mission is to utilize its "intelligence and enforcement functions... [to safeguard] the financial system against illicit use and combat ... weapons of mass destruction (WMD) proliferators" (Treasury.gov). In addition, TFI offers support to law enforcement during the investigation of

suspected violations, working with domestic and international partners to apprehend international financial criminals. Within the TFI are Financial Crimes Enforcement Network (FinCEN), Office of Foreign Assets Control (OFAC), Office of Intelligence and Analysis (OIA), the Office of Terrorist Financing and Financial Crime (TFFC), and the Treasury Executive Office for Asset Forfeiture (TEOAF).

The Financial Crimes Enforcement Network

The Treasury established FinCEN in 1990 to provide a government-wide multisource financial intelligence and analysis network (FinCEN.gov). This office contributes to the CWMD efforts through its ability to “sever the lines of financial support to ... WMD proliferators” using its “policy, enforcement, regulatory, and intelligence functions” (FinCEN.gov). Its mission statement declares that FinCEN seeks to enhance US national security, deter and detect criminal activity, and safeguard financial systems from abuse by promoting transparency in the US and international financial systems (FinCEN.gov). It employs approximately 300 intelligence professionals, including specialists from the financial industry and computer experts. Thirteen different agencies have professionals on loan to FinCEN for the completion of long-term projects.

To enforce terrorist financing and money laundering laws, FinCEN works with a number of other departments and agencies, such as the IRS Criminal Investigative Division (IRS-CI), DoS, DoE, DoD, and state and local agencies. FinCEN produces about 6,500 intelligence reports

per year. In addition, to help the information-sharing process, FinCEN's Project Gateway gives online access to state law enforcement officials. On an international level, it communicates with Great Britain, France, Belgium, and Australia.

FinCEN deals with two threats: money laundering and financing terrorism. Money laundering is the process that moves illegally-acquired financial assets until their trails are lost and have an apparent legal source (FinCEN.gov). A number of laws address money laundering, but the most relevant to CWMD is the Bank Secrecy Act of 1970 (BSA). FinCEN's implementation of BSA requires it to trace the source, volume, and movement of currency that moves into or out of the US. Under the BSA, banks must report cash transactions over \$10,000 using the Currency Transaction Report, properly identify persons conducting transactions, and maintain a paper trail by keeping appropriate records of financial transactions (FinCEN.gov).

The Uniting and Strengthening American by Providing Appropriate Tools to Restrict, Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act) broadened the scope of the BSA to include terrorist financing and money laundering. Thus, the jurisdiction of the BSA extends to "hundreds of thousands of financial institutions," such as:

depository institutions (banks, credit unions and thrifts); brokers or dealers in securities; insurance companies that issue or underwrite certain products; money services businesses (money transmitters, issuers, redeemers and sellers of money orders and travelers' checks; check cashers and currency exchangers); casinos and card clubs; and dealers in precious metals, stones, or jewels (FinCEN.gov).

Through the BSA, FinCEN can obtain records if they are relevant to criminal, tax, or regulatory investigations or proceedings, or they are acquired during “intelligence or counterintelligence activities...to protect against international terrorism” (FinCEN.gov). FinCEN combines BSA information with other government and public data to produce intelligence reports regarding potential WMD proliferators.

FinCEN is responsible for the domestic implementation of three international agreements or programs. First is known as “Section 311,” which refers to Section 311 of the USA PATRIOT Act of 2001 entitled “Special Measures for Jurisdictions, Financial Institutions, or International Transactions of Primary Money Laundering Concern” (FinCEN.gov). Using the authority granted under Section 311, the Secretary of the Treasury may declare a foreign jurisdiction, financial institution, class of transactions, or type of account to be of primary money laundering concern (Treasury.gov). This declaration allows the Secretary to impose any of five “special measures.” Four of the special measures place certain requirements on US financial institutions that deal, directly or indirectly, with the Section 311-designated foreign entity. For example, US institutions must report information and records related to the designated jurisdiction. The fifth possible measure may prohibit the designated foreign entity from opening or using US correspondent or payable-through accounts (Treasury.gov).

Next, FinCEN, which serves as the nation’s Financial Intelligence Unit (FIU), is a member to the Egmont Group of FIUs, an informal organization that seeks to facilitate international coordination between FIUs (FinCEN.gov). FIUs are central, national agencies

“responsible for receiving...analyzing and disseminating to the competent authorities, disclosures of financial information concerning suspected proceeds of crime and potential financing of terrorism, or required by national legislation or regulation, in order to counter money laundering and terrorism financing” (Egmont Group). The Egmont Group has a broad membership base of over 120 FIUs and promotes secure information-sharing and increased cooperation. Egmont Secure Web is a technology system that allows members to communicate through secure email and access Egmont Group annual reports, member contact information, and other relative documents (Egmont Group).

Finally, the Financial Action Task Force (FATF) sets the international standard for Anti-Money Laundering and Counter-Terrorist Financing (AML/CTF). FATF, which currently has over 30 members, monitors compliance with its regulations and conducts studies regarding AML/CTF in order to identify and respond to potential threats, such as proliferation financing (Financial Action Task Force). To this end, FATF published two sets of standards that provide implementation guidelines to member countries. The “Forty Recommendations on Money Laundering” announce forty money laundering counter-measures dealing with the areas of law enforcement, the financial system, and international cooperation (Financial Action Task Force). The “Nine Special Recommendations of Terrorist Financing” establish nine steps a country should take to detect and prevent terrorist financing. For example, “Special Measure I” announces the importance of the ratification and implementation of the 1999 United Nations International Convention for the Suppression of the Financing of Terrorism (Financial Action

Task Force). The US delegation to FATF has members from the DoS, Treasury, DoJ, the NSC, and federal and financial regulators.

The Office of Foreign Assets Control

OFAC maintains awareness on export/import activities to countries of proliferation of concern (Joint Publication 3-40 B-15). During interdiction, OFAC imposes controls on transaction and freezes foreign assets under US jurisdiction (Joint Publication 3-40 B-16). OFAC is responsible for the Specially Designated Nationals List (SDN). Individuals and companies on this list have their assets blocked and US persons are prohibited from dealing with them. Many of the sanctions are based on United Nations and other international mandates, are multilateral in scope, and involve close cooperation with allied governments (Treasury.gov).

OFAC implements export controls on transactions and enforces sanctions pursuant to United Nations resolutions and international agreements. It is responsible for the implementation of three executive orders regarding CWMD. The first, pursuant to Executive Order 13382 announced June 28, 2005, deals with “Blocking Property of Weapons of Mass Destruction Proliferators and Their Supporters.” Treasury works with DoS to designate suspect foreign entities as WMD proliferators. This designation effectively denies those parties access to the US financial and commercial systems because US exporters are not allowed to conduct any transaction with these designated foreign entities (Treasury.gov). US exporters that willfully

violate this prohibition are subject to up to 20 years in prison and/or corporate fines of \$500,000 or individual fines of \$250,000.

In November 1994, pursuant to power granted in the National Emergencies Act, President Clinton declared a national emergency concerning the proliferation of WMD. As a result of this declaration, the president signed Executive Order 12938, which gave the Secretary of the Treasury authority to regulate certain bans related to such activities. In turn, OFAC issued regulations in 31 C.F.R. Part 539 “Weapons of Mass Destruction Trade Control Regulations.” E.O. 12938 also grants DoS the power to impose bans on designated foreign persons suspected of WMD proliferation. OFAC controls ban the direct or indirect importation into the US any transshipment or transit of any goods, technology, or services produced or provided by the foreign persons (Treasury.gov). Additionally, US persons are prohibited from financing, acting as a broker for, transporting or otherwise participating in the aforementioned importations (Treasury.gov).

Finally, Executive Order 13159 of June 21, 2000 carries out international agreements between the US and Russian Federation concerning the conversion of HEU into low-enriched uranium, suitable for commercial use in nuclear reactors. OFAC implemented this order through regulations located in 31 C.F.R. Part 540, “Blocking Property of the Government of the Russian Federation Relating to the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons.” The regulations target a very specific group of assets and do not affect Russian property not directly related to the HEU agreements (Treasury.gov).

The Office of Intelligence and Analysis

The Office of Intelligence and Analysis (OIA) was established by the Intelligence Authorization Act in 2004 to integrate the Treasury Department into the larger IC. OIA's mission seeks to provide expert analysis and intelligence production on financial and other support networks for terrorists groups, proliferators, and other key national security threats (OIA Brochure). OIA briefs military commanders on developments in insurgent and terrorist finance submits this information to the White House through the President's Daily Brief. Some members of OIA serve as liaisons to ODNI, FBI, CIA and the GCCs. Others are given temporary work assignments, corresponding with their foreign counterparts for a period of one to three years (OIA Brochure).

Office of Terrorist Financing and Financial Crime

TFFC works with the private sector, US government agencies, and foreign countries to uncover potential threats to US national security by the analysis of financial data. TFFC develops initiatives and strategies to deploy the full range of financial authorities to combat WMD proliferation (Treasury.gov). In addition, TFFC provides leadership in the US government's FATF delegation.

The Treasury Executive Office for Asset Forfeiture

TEOAF's main task is to administer the Treasury Forfeiture Fund (TFF), the receipt account for deposit of non-tax forfeitures made by the Treasury and DHS agencies (Treasury.gov). The IRS-C, US Immigration and Customs Enforcement (ICE), US Customs and Border Protection, US Secret Service, and US Coast Guard seize the assets of criminal enterprises and redistribute the funds according to the guidelines set forth in the TFF. This process contributes funds to entities, such as FinCEN, that do not have forfeiture authority but provide important resources to law enforcement agencies (Treasury.gov).

DEPARTMENT OF STATE

The top priority of DoS is preventing the proliferation of WMD and their delivery systems, and reducing the number of those already in existence. DoS is focused on physical action with regard to nuclear NP centers, policy formulation, diplomatic cooperation initiatives, and program creation for execution by a variety of US governmental organizations and partners. DoS' CWMD efforts are carried out by two main bureaus: The Bureau of Arms Control, Verification, and Compliance (AVC) and the ISN. The Bureau of Political-Military Affairs (PM) has part in export control and licensing. DoS manages and funds the international Science and Technology Centers in both Moscow and Kiev, along with managing the Nonproliferation and Disarmament Fund (NDF) and the Export Control and Related Border Security Assistance (EXBS) Program. In addition to the EXBS, DoS Directorate of Defense Trade Controls (DDTC) implements the International Traffic in Arms Regulations (ITAR), concerning the export control of munitions.

The Bureau of Arms Control, Verification and Compliance

The core mission of the AVC concerns with “national and international security through the negotiation and implementation of effectively verifiable and diligently enforced arms control and disarmament agreements involving weapons of mass destruction and their means of delivery” (State.gov). To carry out the mission of the AVC, the Bureau leads efforts to promote

and implement bilateral and multilateral arms control, increasing transparency and building a sense of credibility throughout the CWMD international community (State.gov). Credibility is a necessary component of all treaties and agreements because it invokes trust between respective nations. In doing this, the AVC makes sure that a countries' compliance is carefully monitored, assessed, reported, and pursued. It also verifies that all international and domestic treaties are being implemented. The Principle Policy community within the AVC includes the Nuclear Risk Reduction Center (NRRC), Offices of Chemical and Biological Weapons, Euro-Atlantic Security Affairs, Missile Defense and Space Policy, Multilateral and Nuclear Affairs, Strategic Affairs, and Verification and Transparency Technologies. They are representatives to the larger IC in regards to ensuring that verification and compliance of various treaties are met. The NRRC creates communication links through IT support, which allows for nearly immediate government-to-government communication with foreign government treaty partners. The NRRC and its Soviet counterparts were formally established in 1987 as a direct government-to-government communications link. Since then, the NRRC's role has expanded to include a number of other international communication links, both bilateral and multilateral, dealing with approximately fifteen different nuclear, chemical, and conventional arms control treaties and security-building agreements (State.gov). The following figure shows the types of notifications occurring between the NRRC and its counterparts from 2004 to 2009. There are six different treaties covered: the START treaty, Conventional Forces in Europe (CFE), Confidence - and Security- Building Measures (CSBM), the Open Skies Treaty, CWC, and other various agreements, treaties, or conventions. After counting the communication through the NRRC

regarding each treaty throughout the years, the NRRC was able to compile a graph showing exactly which treaties received the most talk time. They assigned each treaty a specific color, then layered them indicating the total number of messages each year. The different sized boxes of color within each bar indicate the amount of messages specific to the given treaty.

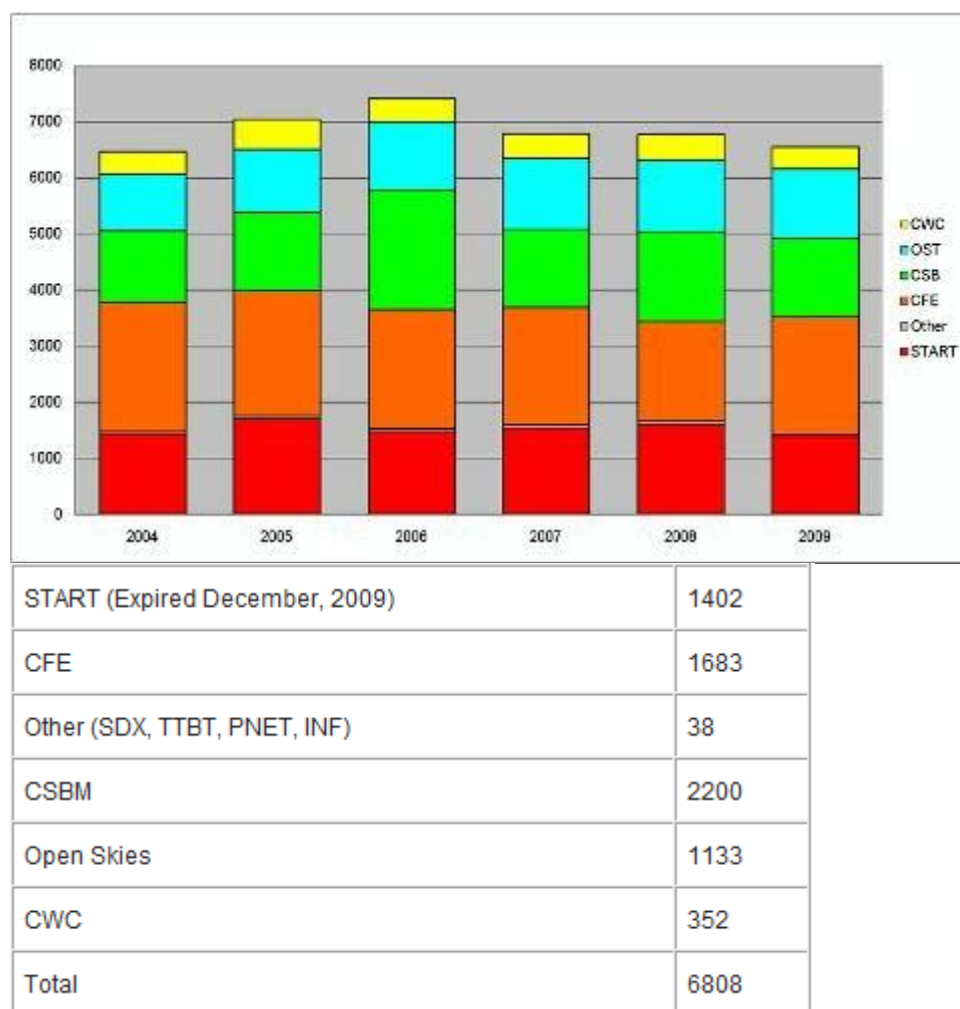


Figure 1: NRRC Operations Message Totals (2009) <state.gov>

The Bureau of International Security and Nonproliferation

The ISN is another Bureau that is designated to carry out DoS' CWMD mission. The ISN has twelve offices organized into three specific interest areas: Nuclear Affairs (NA), Non-Nuclear and Counterproliferation (NNCP), and Nonproliferation Programs (NPP)¹, which contains the offices of CTR, Export Control Cooperation (ECC), and Nonproliferation and Disarmament Fund (NDF).

NDF was created in 1994 as a means for the US government to respond quickly to NP and disarmament opportunities, circumstances or conditions that are unanticipated or unusually difficult, but high in priority. It addresses many aspects of NP and CP; NDF maintains an expertise in policy development, negotiations, program management, financial operations, and contract administration to ensure the work is accomplished in the most secure, safe, and cost-efficient manner possible. The mission states that NDF will: halt the proliferation of NBC weapons and their delivery systems; destroy or neutralize existing WMD, their delivery systems, and related sensitive materials and infrastructure; facilitate the detection and interdiction of WMD by tracking, controlling, and securing dangerous materials; limit the spread and advance of conventional weapons, and buttress and supplement US diplomatic efforts to promote bilateral and multilateral nonproliferation and disarmament activities (State.gov). The Freedom for Russia and Emerging Eurasian Democracies and Open Markets (FREEDOM) Support Act, authorized the president to create the NDF, which delegated the creation and implementation of the NDF to

¹ Commonly abbreviated NP but to avoid confusion it will be referred to as NPP.

the Secretary of State. The NDF encourages and facilitates input and advice from all DoS bureaus as well as any US agencies participating in NP and disarmament. The NDF Review Panel is the primary mechanism through which the NDF receives advice on project proposals. Such projects involve working on developing policies and negotiations about various NP and disarmament situations.

The Review Panel is made up of voting members, which are senior officials in the ISN, PM, and AVC. In addition to voting members, the panel contains representatives from the DoD, DHS, DoC, DoE, Office of Management and Budget, NSC, and CIA's Weapons, Intelligence, Nonproliferation, and Arms Control Center. The Review Panel's primary function is to review project proposals and offer recommendations based on the information contained within the proposals. Each project proposal must undergo a four-step review process; first, the project is submitted to the NDF, where it then goes to the Review Panel for consideration of funding. Next, the Under Secretary reviews the proposal contract to make sure it is consistent with previous NDF projects, then approves the project proposal with a signature where the proposal then moves towards a fifteen-day advance notification to Congress. Within this fifteen-day period, Congress determines if the project can be completed with the current funding and then allots the international organization with funding from the NDF. Each project proposal must support some part of the NDF mission but can be submitted by any US government agency or DoS office (State.gov).

The DoS has the mission to manage the Export Control and Related Border Security Assistance (EXBS) Program. This program is found under the directorate of the ECC. It helps

the former Soviet states and other nations improve their ability to interdict nuclear smuggling and stop the illicit trafficking of all WMD-related material and dual-use goods and technology (Woolf 7). The EXBS Program was identified by DoS as the premier initiative to help other countries improve their export control systems (ExportControl.org). Currently, the EXBS has projects in thirty different nations. It is led and funded by DoS but draws on expertise from DHS, DoC, DoE, DoD, and the private sector to provide a range of training and equipment. Since inception, the EXBS program has helped more than forty countries improve their ability to prevent and interdict shipments of dangerous items and controlled technologies (U.S. Customs and Border Patrol). The US addresses five key areas of border control; first, it offers the recipient nation guidelines to establish the legal and regulatory basis for effective export controls. For example, the EXBS helped countries in the FSU draft and implement new comprehensive export control laws. Then, it assists the nation in developing appropriate export licensing procedures and practices. In coordination with the recipient country, the program establishes and enhances effective enforcement capabilities by providing interdiction and detection equipment with proper training. It also helps establish procedures that promote effective interaction between government and industry so that business entities in the recipient nation will abide by the laws and regulations of the new export control regime. Finally, it establishes interagency cooperation coordination. For example, it conducted joint vehicle inspection training for Pakistani Customs and Border Guard personnel at a US-Mexico border crossing (Exportcontrol.org). Along with the training and equipment provided by the EXBS, it also sponsors regional and global conferences to bring national policymakers and technical

experts together to share information about proliferation challenges and the latest developments in the multilateral nonproliferation regimes (State.gov).

CPI develops, implements, and improves CP efforts, such as the PSI. It also conducts efforts to interdict or deny shipments of WMD and their means of delivery, and promotes observance of UN Security Council Resolution 1540 (Department of State). With a direct relationship with the new NCPC and other intelligence organizations, it chairs the Nuclear Interdiction Action Group (NIAG) and supports the Principal Deputy Assistant Secretary for Counterproliferation. The NIAG's policy development addresses the trade in nuclear materials, and coordinates closely with CTR as the lead ISN office for securing facilities and materials worldwide.

While implementing the PSI, CPI participates in interdiction meetings and facilitates diplomatic support for such activities, encouraging new countries to join the PSI. It also leads negotiations of ship-boarding and other relevant international agreements. This is much like how CPI implements UN Security Council Resolution 1540; they are responsible for sustaining the obligations UN member states have undertaken in accordance with UN Security Council Resolution 1540. Their key functions involve working with the overseas community to insure it remains focused on reviewing the implementation of 1540 requirements, responding to requests for assistance, and developing proposals for bilateral and multilateral assistance. They also track activities of multilateral bodies or organizations that may decide to become involved or facilitate work with 1540.

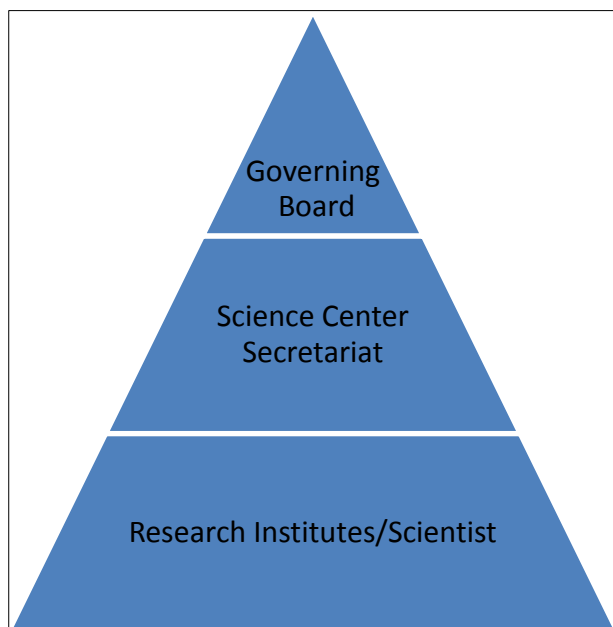


Figure 2: Structure of the International Science and Technology Center and the Science and Technology Center

A key issue within the ISN is Technology Security and Scientist Redirection. This is operated through two different science and technology centers in Moscow and Kiev, under the directorate of the DoS. The International Science and Technology Center (ISTC) was created in 1992 in Moscow, Russia, where the Science and Technology Center (STCU) was established a year later in Kiev, Ukraine. DoS

established these centers to provide research grants to scientists and engineers in FSU states.

These grants were provided to curb the need to sell their own knowledge of the production of WMD to other nations or terrorist groups. The center funds scientists who have worked on NCB weapons, although historically they have focused on nuclear scientists because of the location of the centers within closed nuclear cities (Woolf 25). In order to prevent the spread of knowledge or the funding of projects that might be sold to countries or terrorists with interest of WMD, DoS has designed an interagency review process to select and fund research proposals submitted by weapons scientists. Through the review process, the panel screens out proposals that may be used directly, or indirectly, to support weapon development. They also evaluate the proposal's scientific merit along with the target to only employ senior weapons scientists. The Science Center's Structure starts with the Governing Board, who makes administrative decisions

regarding approvals for funding. Below the Governing Board is the Science Center Secretariat, which administers the projects, managing project funds to purchase equipment and pay scientists' grants. They are also in charge of conducting the oversight of existing projects. The final level is the Research Institutes themselves, who provide the facilities for research and are compensated for overhead costs. This is where the scientists conduct the research; they provide science centers with the technical and financial reports on all projects (General Accounting Office 4). Although these programs provide scientists with a way to sell their expertise, they often do not work more than 50 days out of the year on a given project, leaving them ample time to find other, and perhaps more illicit, jobs. An argument against the funding of projects has been that the US is funding them to sell the information in other markets as well as at home. DoS has been trying to counteract this problem with stricter interagency reviews of given projects.

The Bureau of Political-Military Affairs

The PM Bureau provides policy direction in the areas of international security, security assistance, military operations, defense strategy and plans, and defense trade. The PM's main objective is to ensure that defense trade supports US national security and foreign policy interests. The Arms Export Control Act (AECA) and the ITAR grant control power to DoS. Within the PM, the Directorate of Defense Trade Controls (DDTC) regulates the temporary import as well as the permanent and temporary export of defense articles and defense services involving items on the US Munitions List (USML). The USML generally covers items specially designed or modified for military applications in a 21 category list. The ITAR covers not only

hardware but also technical data as defense services. It excludes basic research and information that is regarded as public domain. The Office of Defense Trade Controls Licensing (DTCL) is in charge of all licenses given by DoS. With a few exceptions defined in the ITAR, all transfers of US defense articles or services to foreign persons require a case-by-case review and authorization by DTCL. Export licensing requirements are based on the nature of the article or its service and not its end use, although this is in the process of changing to include the end use as a requirement (Department of State).

INTELLIGENCE COMMUNITY

The US IC is composed of seventeen agencies and is headed by the Office of the Director of National Intelligence (ODNI). These agencies are depicted in the figure below, with the ODNI at the center of the IC. The primary objective of the IC is to provide the US government with timely, reliable, and actionable intelligence upon which to make policy decisions. The IC enables other US government departments to carry-out their CWMD missions. While reform of the IC since 2001 is addressed below, intelligence reform, in and of



Figure 3: Intelligence Agencies Headed by ODNI
 <counterwmd.gov>

itself, will not be discussed in this paper as it falls outside the scope of the project.

The ODNI was created after the fallout from 9/11. September 11th is widely seen as an intelligence failure because the signs of an attack were there, but the sharing and dissemination of intelligence between agencies did not occur. This prompted the 9/11 review committee to suggest the ODNI be created to oversee the IC's activities and to ensure intelligence sharing and collaboration occurred between the different IC agencies. It can be argued whether or not the ODNI is an effective institution, but coordination and cooperation across the IC has improved as a result of the ODNI. According to former Ambassador and head of the NCPC Kenneth Brill, the creation of various fora within the IC for communication following 9/11 has increased cooperation; this is largely because of a change in culture in the IC. Prior to 9/11, most intelligence agencies only worked with their own methods and sources. Because of this stove-piped structure, not much intelligence sharing occurred between agencies. However, 9/11 forced the IC to cooperate because the challenges facing the country were too important and diverse for the agencies to work independent of one another.

National Counterproliferation Center

The NCPC was setup within the ODNI in 2005 to centralize all of the IC's proliferation intelligence processes. The point in creating one location to disseminate all WMD intelligence was the ability to increase collaboration between the intelligence agencies that are tasked with combating transnational threats. The NCPC works closely with the National Counter-terrorism

Center (NCTC) in combating the transnational threats of WMD proliferation and terrorism. This is necessary because these issues cannot be claimed to be solely terrorist-or-proliferation-related matters, but rather are somewhere between the two. The NCPC connects the IC to policymakers for activities within the US government associated with countering the proliferation of WMD (Counterwmd.gov).

The Counterproliferation Integration Board (CPIB) was established by the NCPC in 2006 and is composed of the CP leaders of the IC. The CPIB includes ten different agencies: CIA, FBI, National Geospatial-Intelligence Agency (NGA), National Reconnaissance Office (NRO), DoE, Defense Intelligence Agency (DIA), National Security Agency (NSA), DoS, Treasury, and DHS. The CPIB is an important forum for intelligence agencies working on CP to collaborate on their efforts:

CPIB work includes developing coordinated, integrated, and effective plans for US National Intelligence Counterproliferation programs and activities; evaluating the IC's performance against WMD requirements; identifying gaps, deficiencies, or impediments that hinder intelligence collection, exploitation, analysis, or counterproliferation activities; and examining strategic investments needed to advance the counterproliferation mission. (Counterwmd.gov)

This coordination between the intelligence agencies regarding intelligence collection and dissemination is an important development in synchronizing US government efforts to

compile different viewpoints and conclusions in order to avoid a repeat of the build-up to the Second Iraq War and the conclusions reached that Iraq had WMD. This was largely an intelligence failure because most of the intelligence used in the final conclusions was from CIA sources even though the DoE had intelligence contradicting CIA's intelligence.

Desouza and Lau state:

The IAEA, agreeing with the DOE's assessment, concluded that the tubes were not directly suitable for use in the gas centrifuge. In spite of the differences of opinion among the different agencies, the CIA expressed its views to senior policymakers that it believed that Iraq was going to use the tubes in the gas centrifuges for uranium enrichment. (Desouza and Lau 1478)

If these agencies had communicated and collaborated on this mission more effectively, this intelligence failure could have been avoided.

Many of these intelligence agencies have directorates established to counter proliferation that are separate from the NCPC. Examples of this include: the FBI's WMD Directorate and CIA's Counterproliferation Center (CPC). Many federal departments also have entities that are devoted to countering proliferation; these would include DoE, DoC, and Treasury. Each of these department's intelligence units regarding CWMD has a focus particular to their department's mission. The Department of the Treasury's Office of

Intelligence and Analysis (OIA), for example, focuses on terrorist financing. Some confusion has been noted with the many different groups that focus on WMD and no group more so than the IC. These overlaps will be discussed in the findings of this paper.

DEPARTMENT OF JUSTICE

The primary bureau within the DoJ in regards to CWMD is the FBI. In 2006, the FBI created the Weapons of Mass Destruction Directorate (WMDD) to build a cohesive and coordinated approach to incidents involving nuclear, radiological, biological, or chemical WMD—with an overriding focus on prevention (FBI.gov). The WMDD combines law enforcement, intelligence, and technical WMD expertise in a way that promotes good communication and collaboration between all aspects. Such a creation allowed the FBI to centralize their CWMD efforts in an organized fashion. To best address requirements of their mission, the FBI approaches the WMD issue in terms of four major functional categories: preparedness, countermeasures, investigations/operations, and intelligence (FBI.gov). The scope of the project allows the elimination of preparedness and countermeasures because they are predominantly concerned with CM once an incident has occurred.

A key aspect of the Investigations and Operations program involves investigating the threatened use of WMD as well as the attempted transfer of materials, knowledge and technology, including dual-use items. These cases include efforts to proactively monitor, detect, and prevent malicious subjects from even acquiring WMDs or mitigating the effects of the WMD threat (Department of Justice 6). To prevent a threat from acquiring WMD, the WMDD coordinates with suppliers and manufacturers of such material in an effort to build a bond and create a safe means of voluntary reporting of violators. As a member of the IC, the FBI, through the WMDD, consumes and contributes large amounts of intelligence to help establish a clear

idea of any emerging or imminent WMD threats of attack or proliferation. The WMDD relies heavily on the WMD Coordinators as well as Counterproliferation Coordinators in field offices to provide sufficient intelligence from their AOR, that when combined with others can provide extensive information regarding proliferation or threat of WMD attack (FBI.gov). Each WMD Coordinator is responsible for training other FBI Special Agents and other field division agents how to detect, handle, and respond to threats, where the Counterproliferation Coordinator tries to get a “big picture” perspective of CP trends which they then relay on to non-FBI organizations. Such trends can include things to be prepared for on a daily basis, as well as issues regarding CP (Department of Justice 6).

DEPARTMENT OF HOMELAND SECURITY

DHS was created in November of 2003 in response to the September 11, 2001 attacks.

DHS encompasses twenty-two agencies that were previously under several other organizations including DoD, DoC, DoE, Treasury, DoJ, and the IC before the 9/11 attacks. The goals of DHS are mostly focused on protecting the homeland, which include: preventing terrorist attacks within the US, reducing US vulnerability to terrorism, and minimizing damage done, as well as assisting in recovery from a terrorist attack. The DHS mission statement is:

We will lead the unified national effort to secure America. We will prevent and deter terrorist attacks and protect against and respond to threats and hazards to the nation. We will ensure safe and secure borders, welcome lawful immigrants and visitors, and promote the free-flow of commerce (One Team, One Mission, 3)

Under DHS is the Homeland Security Advisory Council (HSAC). The HSAC is made up of several state and local government leaders who are tasked with providing advice and recommendations to the Secretary of Homeland Security relating to homeland security.

DHS also monitors the HSAC. The system is a color coded chart that portrays the risk of a terrorist attack occurring in the US. The HSAS has been in place since 2002. As of recent, a new system will be put in place called the National Terrorism Advisory System. This improved system will only consist of two threats: imminent threat alert and elevated threat alert. The imminent threat alert warns of a credible, specific, and impending terrorist threat against the US. The elevated threat alert warns of a credible terrorist threat against the US where no specific

details are known. This system will give a summary of the threat at hand along with actions being taken to protect the public and recommended steps that should be taken by individuals to help prevent or mitigate the threat. The new system will also sometimes contain a sub-set provision that is issued for a specific time period and then will automatically expire at the end of that period unless otherwise extended.

There are several other offices and divisions within DHS that help to combat WMD. The Domestic Nuclear Detection Office (DNDO) works under the DHS. The DNDO serves to improve the nation's ability to detect and protect the homeland against nuclear and radiological threats. It is responsible for the development of the global nuclear detection architecture as well as providing standardized threat assessments, support training and response protocols for federal and non-federal partners. The Directorate for Science and Technology (S&T) focuses on increasing the nation's preparedness against chemical and biological threats, enabling comprehensive understanding and analysis of biological and chemical threats in the domestic domain. The S&T is also responsible for the development of vaccines and diagnostics for high-priority foreign animal diseases.

The US Immigration and Customs Enforcement (ICE) has the authority to investigate and enforce criminal violations of all US export laws. Agents in the field conduct CP investigations that focus on the trafficking and illegal export of WMD materials, CBRN materials, military equipment and technology, and dual-use commodities and technology. There are two main projects operating under the ICE: Project Shield America (PSA) and the National Export

Enforcement Coordination Network (NEECN). PSA is an industry outreach initiative; agents conduct presentations with manufacturers that are believed to be targeted by terrorists and high-risk countries that are identified as weapons proliferators. Agents also educate companies about US export laws and licensing requirements (ICE.gov). NEECN leads the coordination within DHS to address challenges inherent with dismantling transnational procurement networks. The highest priority of the NEECN is to counter the proliferation of US-origin WMD components and technology. It integrates homeland security with law enforcement, intelligence, and foreign officials into coordinated operations designed to identify, investigate, interdict and share information regarding threats associated with the illegal export of munitions and technology (ICE.gov).

On November 9, 2010, President Obama issued Executive Order 13558, which established the Federal Export Enforcement Coordination Center (EECC). The Secretary of Homeland Security was charged with the implementation of this interagency center. EECC brings together members from the Departments of State, Treasury, Defense, Justice, (ICE.gov) Commerce, Energy and the ODNI in an effort to strengthen export control laws through increased information-sharing and coordination of enforcement efforts. The EECC Director, a senior officer or employee of DHS, works with two Deputy Directors, a senior officer or employee from each of the DoC and DoJ. In addition, an IC liaison is selected by ODNI and serves as the coordinator between the IC and the EECC Director (Office of the Press Secretary).

DEPARTMENT OF ENERGY

DoE is responsible for the design, testing, and production of all nuclear weapons in the US. It also claims ownership of all nuclear weapons deployed by DoD. There are several offices under the DoE that have more specific responsibilities in CWMD efforts (Energy.gov). The main office involved in DoE's CWMD efforts is the National Nuclear Security Office (NNSA). NNSA's main goal is to prevent the proliferation of nuclear materials and technology. They have three main missions: detect, secure, and dispose. The first mission of detection includes the detection and deterrence of illicit transfers of weapons-usable nuclear and radiological materials and equipment, prevention of the spread of sensitive nuclear weapons, and to develop cutting edge nuclear detection technologies. The second mission is to secure, which includes the prevention of terrorist access to WMD, securing weapons and materials at their source, and improving security practices. It also includes removing or securing significant quantities of excess vulnerable radiological materials, as well as updating international nuclear safety standards. The final mission is to dispose and eliminate materials deemed dangerous, encouraging other states to stop producing and dispose of excess nuclear and radiological material. This also includes disposing of the surplus of highly enriched uranium (HEU) from US warhead dismantlement, and oversees efforts to dispose of weapons grade plutonium (NNSA).

Under the NNSA is the Office of Defense Nuclear Nonproliferation which is headed by the Deputy Administrator for Defense Nuclear Nonproliferation. This office works closely with

many US agencies as well as international partners to carry out the mission of the NNSA; this office also leads the Office of Nonproliferation Research and Development, the Office of Nonproliferation and International Security and the Office of Global Threat Reduction.

The Office of Nonproliferation Research and Development is the principal government office that conducts long-term research into new nuclear NP and CP technologies that will further help the government to combat WMD. It also provides updated operating systems and software for national security systems. Under this office is the Office of Proliferation Detection, which develops tools and technologies that have the goal of detecting, localizing, and analyzing global proliferation of WMD. Its main focus is on nuclear weapons technology; it seeks to fill long-term technical needs that support detection missions. It is responsible for programs that include the development of innovative applications capable of advanced detection abilities. Some of these utilize mathematical simulations, algorithms and modeling to develop new computational techniques for applications in the detection of proliferation activities through the nuclear fuel cycle and remote sensing to improve capabilities to detect proliferation activities where the US is denied access.

The Office of Nonproliferation and International Security (NIS) provides technical and policy support to the US government while working closely with DoS, DHS, DoD, Treasury, DoC, and the IC. They are also tasked with verifying the elimination of proliferation programs and stockpiles of WMD materials, as well as promoting foreign compliance controls and safeguards.

The Office of Global Threat Reduction has a National Security Goal of preventing the acquisition of nuclear and radiological materials for use in WMD and other acts of terrorism. It has three subprograms: convert, remove and protect. Converting is focused on the conversion of HEU fuel into low-enriched uranium fuel; this minimizes civilian use of HEU for nefarious uses. The second subprogram is the removal or disposal of excess WMD-usable nuclear and radiological materials from civilian sites, which lessens the risk of the creation of dirty bombs. The final subprogram is to protect, which supports the protection of at-risk WMD-usable nuclear and radiological materials worldwide from theft and sabotage (NNSA.energy.gov).

The Office of Secure Transportation (OST) is mainly tasked with the transportation of nuclear weapons. The OST provides safe and secure transportation of nuclear weapons and components as well as special nuclear weapons and components and the materials that are required for those weapons. It also has several liaison programs with federal and state response organizations to ensure proper and safe transportation.

The CPRC established a list of nine Areas for Capability Enhancements (ACE) for DoE as well as DOD and the IC. These capabilities describe CP mission area requirements and where progress is needed to enhance war fighting capabilities for the GCCs. The nine ACEs assigned to the DoE are:

1. Detection, tracking, and protection of NBC materials as well as other related materials
2. Support for Special Operations Forces and Defense against paramilitary, covert delivery, and terrorist NBC threats

3. Detection, identification, and characterization of biological warfare chemical agents
4. Provide Consequence Management
5. Support inspection and monitoring activities of arms control agreements and regimes
6. Detection, characterization, and defeat of NBC materials with minimal collateral efforts
7. Collection, analysis, and dissemination of actionable intelligence to counter proliferation
8. Detection, location, characterization, defeat, and elimination of WMD materials, weapons and related facilities while minimizing collateral effects
9. Support export control activities of US government

One of the main programs under DoE is the Initiatives for Proliferation Program (IPP). The original intent of the IPP was to reduce the proliferation risk posed by Soviet-era weapons scientists, based on the belief that if these scientists were not given something to do, they might sell their expertise to terrorists or unfriendly countries. The two main purposes of this program are to engage weapons scientists and scientific research, as well as aid in the development institutes located in Russia and other FSU countries. These tasks are fulfilled by supplementing their existing salaries and creating sustainable, private sector jobs for former weapons scientists. Although this program continues to successfully complete its mission, it also has some faults. Primarily, the IPP has no exit strategy as to when countries should graduate from this program, even though Russia has gone on the record that they no longer believe that they are in need of the program because their economy is strong and they can support the salary of their own scientists without the help of the US. The IPP also goes on a

“good faith” basis when discerning if a scientist has credibility to partake in the program (GAO 2007 ?).

DEPARTMENT OF HEALTH AND HUMAN SERVICES

The US Department of HHS defines its mission as “the government’s principal agency for protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves” (HHS.gov). Leadership of the Department is provided by the Office of the Secretary, who resides over eighteen staff divisions and eleven operating divisions of HHS, including the Centers for Disease Control and Prevention (CDC), the National Institute of Health (NIH), and the Food and Drug Administration (FDA), among

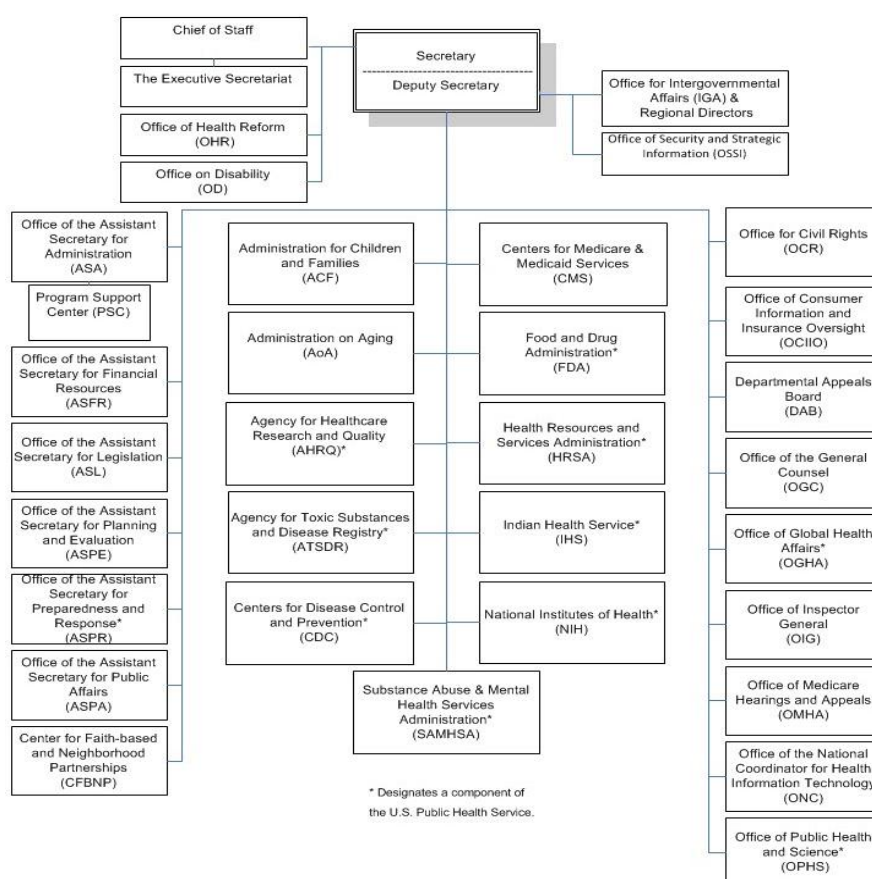


Figure 4: Staff and Operating Divisions of HHS <hhs.gov>

others. Tasks and services of HHS department agencies include: research, public health, and food and drug safety. The office responsible for CWMD-related issues resides predominantly within the Office of the Secretary, which is the Office of the Assistant Secretary for Preparedness and Response (ASPR), whose mission is to prevent, prepare for, and respond to public health emergencies and medical disasters (HHS.gov).

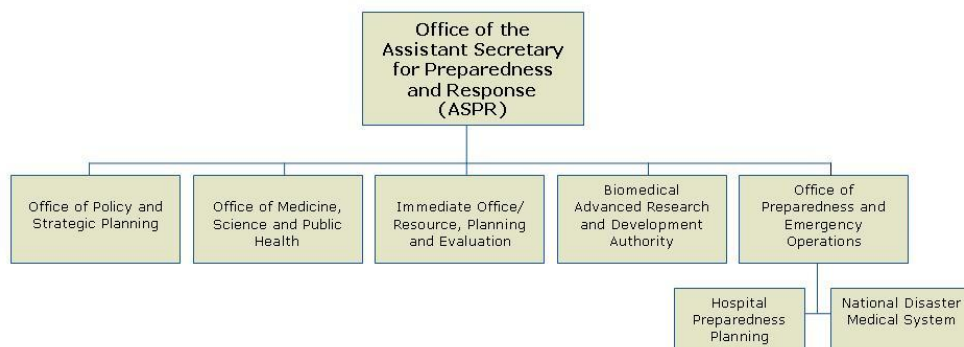


Figure 5: ASPR Organization Chart <hhs.gov>

Office of the Assistant Secretary for Preparedness and Response

ASPR has the primary responsibility of surveying and reducing the time it takes to recognize and characterize all categories of WMD materials as defined by the team, including chemical, biological, radiological and nuclear materials (HHS.gov). To identify WMD materials is an essential foundational step in the US' counter- and NP efforts. With new and emerging

bacterial, viral and other noxious WMD-capable materials being developed every day, scientific research is needed to understand the various materials. To recognize the pathological capability of agents, their mode of transmission and other identifying factors provides the capacity to identify, monitor and counter proliferation of WMD material. HHS' responsibilities in CP and NP of WMD also include education and outreach efforts. The National Health Security Strategy of 2006 is one source that describes HHS' role and responsibilities in US governmental agencies' CP and NP efforts; it also has a leading role in CM. The scope of this project was strictly focused on the CP and NP efforts of governmental departments. CM activities are addressed in the potential WMD scenarios presented later in this document. Under the guidance of the National Response Framework, CM entails such activities as adequate medical equipment and supplies through the National Stockpile, hospital care, and victim decontamination (HHS.gov).

HHS has a special interest in biologically-related WMD material. ASPR is on the front line of biological defense, including biological weapons NP activities. This entails such tasks as identifying emerging technologies and threats, providing biological security education and outreach, and fostering international biological engagement. From material identification to surveillance and education, HHS's efforts in combating WMD is more than CM and requires coordination within and outside HHS departments.

The team has found that future WMD efforts will include an increased interest in biological and chemical WMD counter and non-proliferation (Lt. Col. Pappas, Raymond Bull). HHS has sought to fulfill this interest by developing the National Biosurveillance Strategy for

Human Health in conjunction with the CDC Office of Public Health Preparedness and Response (February 2010). This Strategy's goal is to coordinate enhanced nationwide biosurveillance for human health. The term biosurveillance is defined as “managing health-related data and information for early warning of threats and hazards, early detection of events, and rapid characterization of the event so effective actions can be taken to mitigate adverse health effects” (National Biosurveillance Strategy 5). The practice of biosurveillance seeks to manage data across a range of information systems to achieve the ultimate goal of timely and accurate population health situation awareness. The scope of biosurveillance includes all hazards, including; biological, chemical, radiological and nuclear material (National Biosurveillance Strategy 5). The information that biosurveillance provides allows for quick detection and monitoring of WMD materials. Such information is also used in planning and responding to population health emergencies. Along with federal working groups, HHS utilizes State, Local, Territorial and Tribal (SLTT) Working Groups.

WMD surveillance provides relevant, accurate and timely information to be shared with government, healthcare, business, and the general public for decision-making and the development of planning and response capabilities in population WMD emergencies. CP and NP efforts are based on founding principles, such as a commitment to building upon current relationships and respecting multi-departmental perspectives. Other key principles include actions that reflect the fulfillment of federal responsibilities through the interaction with state and local government and the promotion of platforms' interoperability.

ASPR Biological Weapons Nonproliferation and Counterterrorism Branch

Dr. Dana Perkins of the ASPR Biological Weapons Nonproliferation and Counterterrorism Branch provided the team with further insight into HHS's special interest in biologic-specific threats. The branch has such responsibilities as the development and review of policies regarding bio- and health security, biological weapons, and NP. The branch identifies biosafety and biosecurity as vital elements of biological NP. To prevent the acquisition or possession of WMD material, or the scientific or technical capability would decrease the threat of biological WMD.

The Centers for Disease Control and Response: The Office of Public Health Preparedness and Response

An HHS operating division of the CDC includes the Office of Public Health Preparedness and Response (OPHPR). Formerly entitled the Coordinating Office for Terrorism Preparedness and Emergency Response (COTPER), the OPHPR's Board of Scientific Counselors (BSC) advises the Secretary of HHS, the CDC Director, and the OPHPR Director, concerning strategies and goals for preparedness programs and research; conducts peer-review of scientific programs; performs secondary reviews of research grants; and monitors OPHPR's overall strategic direction and focus. The Board is knowledgeable in disciplines relevant to

emergency preparedness and response, including: behavioral science, business, crisis leadership, engineering, epidemiology, informatics, laboratory science, medicine, and social science. The team's collaboration with the Board of Scientific Directors provided insight into the CDC's role regarding the national stockpile, premier laboratories and surveillance, detection and response networks, epidemiological trends and quarantine areas.

Health and Human Services: State Level

The team was also in contact with Dr. Joann Schaefer, the Chief Medical Officer for the State of Nebraska. Her input provided understanding of each state's role in CWMD efforts. Dr. Schaefer explained that education is a major part of the HHS WMD NP role. HHS provides education and awareness regarding monitoring of potential CBRN materials to professionals, the sciences, and those involved with regulation within the community. The Nebraska Department of HHS supports the statement that security is everyone's responsibility: all persons should report suspicious purchases to local law enforcement, who in turn contact the HHS Center for Biopreparedness. For example, if someone were to buy 30 gallons of fertilizer, and things "aren't matching up", it should be reported to local law enforcement. Dr. Schaefer reported that the September 11th and the Anthrax mail incidents in October 2001 served as wake up calls to all government departments. Both response and education systems are essential responsibilities of each state in the fulfillment of HHS's success in NP and CP WMD efforts at the federal level.

United States Army Medical Research Institute of Infectious Diseases

The United States Army Medical Research Institute for Infectious Diseases (USAMRIID) serves as a reference laboratory for DoD, setting the standard for identification of biological agents. It is the only Containment Level 4 laboratory associated with the DoD, an asset because dangerous pathogens such as the Ebola, Marburg, and West Nile viruses, SARS, and anthrax can be studied safely. USAMRIID plays a critical role in the status of our country's preparedness for biological terrorism and biological warfare. While USAMRIID's primary mission is to protect the war fighter, their research benefits civilians as well. Other responsibilities of USAMRIID include the development of medical countermeasures for the protection of US citizens, both military and civilian. USAMRIID also works to ensure security regarding the prevention of enhancement or sustainability of any offensive biological or chemical weapons capability (Spaulding, The Deutch Commission Report: An Overview). The scientific credentials of USAMRIID's workforce represent some of the top infectious disease and biological defense experts in the Nation (USAMRIID.army.mil).

NONPROLIFERATION: GAPS

NP efforts target and analyze state and non-state actors attempting to acquire WMD capability. These efforts take on many forms and functions when trying to deter the proliferation of WMD. Actions range from determining states' interests in acquiring weapons to intervening in a state to eliminate weapons and weapons infrastructure stockpiles. The actions taken to mitigate the proliferation risk depend on whether it is a short-term or long-term issue; there are different approaches to dealing with both. There are obviously more choices on the table in terms of policy options in a long-term situation rather than in a short-term one. This is why it is important to get out in front of the proliferation problem rather than waiting for it to present itself.

Differing Approaches to Countering Proliferation

Traditionally, the IC has focused on current intelligence, and still does because it is a necessary component of intelligence collection. However, when countering WMD proliferation, current intelligence is a description of events that are occurring; it does nothing more than alert policymakers as to what is happening. The WMD threat has generally been posed as a technical one (Brill 445). It has been viewed this way because focus has been on looking at states' development of WMD technologies and advancements. Intelligence was mostly gathered on what a state was developing in terms of WMD technology and where they might be getting

assistance from. This means focusing on the weapons and infrastructure required for a weapon and countering these threats with technology and weaponry to detect and eliminate them. However, this type of NP occurs after states already possess weapons and capabilities, as opposed to deterring them before they possess those capabilities. The IC has realized this and has begun to fill this void.

An example of a technical response to a WMD threat is that of Iran's nuclear program. The IC knows a lot of information about Iran's nuclear program: it knows where its reactors are located, the type of processing they are doing, and, based on that, approximately what their civilian and military capabilities would be. Attacking the proliferation problem from a technical angle only allows one to know the technical capacity of the program. One will not know why Iran is developing this technology and what its intentions are for use. Adding the non-technical aspect of countering proliferation, one can try to determine the leadership of Iran's intentions and motivations in developing this technology, and hopefully, be able to predict what they will use that technology for. Looking at this problem only from a technical angle limits what is knowable and predictable about the situation.

During the Cold War, most intelligence focused on the USSR and its nuclear and missile technologies. However, when the USSR collapsed, there was a fundamental shift in the global system and the threats posed by it. Long-term NP efforts were needed after the end of the Cold War because of the increasing interconnectedness of the world and the transnational threats that came with it. Paul Williams writes, "Nonproliferation was trumped by globalization.

Production capabilities for nuclear weapons development became merely another set of commodities to be moved and sold like any other” (Williams 3). The proliferation problem has changed significantly, becoming much more complex and posing more difficult challenges than in the past (Williams 4). Long-term efforts to combat these problems consist of understanding state motivations and then identifying the tools, levers, incentives, disincentives and opportunities that policymakers can use to respond to perceived needs and shape behavior (Brill 445). Essentially, this allows the IC to look at trends, determine whether states are seeking weapons and then inform policymakers of these trends before states acquire weapons and capabilities. Policymakers can develop country-specific strategies to counter proliferation before it begins when efforts are focused on intentions and motivations as opposed to the technical side of proliferation (Brill 446).

DoD allocates its resources on CP efforts at the expense of NP. DoD treats proliferation mostly as a technical problem, which is necessary, but not sufficient in countering proliferation. DoD is excellent at reacting to events with military force, but it is not always as good at looking at long-term trends and effects of actions in the present. With the updated language in the current Guidance for the Employment of the Force (GEF) there is a shift occurring within DoD to better balance NP and CP operations. This shift has created certain gaps that need to be filled. By DoD realizing the importance of non-technical approaches to proliferation, it could use its large size and power within the US government to focus on state intentions and motivations rather than relying on the military as much.

FSU Nonproliferation Programs

Many new programs were implemented by various US government departments at the end of the Cold War to prevent the nuclear weapons and material of the USSR from being proliferated around the globe. These initiatives included hiring former Soviet scientists that worked on NBC weapons projects in order to prevent their expertise from going to states where it could help them expand their WMD capabilities, and eliminating nuclear material and weapons infrastructure in the FSU. Most of these projects are now approximately twenty years old and their value is being questioned. For the most part, these programs performed well in both eliminating materials and infrastructure as well as hiring scientists. However, the programs that hire scientists in the FSU have faced scrutiny because they are run in multiple departments and they have differing goals.

One example of this is DoS and DoE's different programs. DoS realizes it cannot fund this program forever and has developed a program to graduate institutions from its program while DoE has continued to fund its programs, expand past the FSU, and has not developed a strategy to phase out its program. According to a 2007 GAO report, DoE has not developed an exit strategy for the IPP program in Russia and other countries, although officials from the Russian government, Russian and Ukrainian institutes, and US companies raised questions about the continuing need for the IPP program (GAO-08-189 6). As can be seen, there is disconnect between all parties involved as to what the program's future is. Not only is there disconnect between the domestic and foreign parties, but within the US government:

DOE has not developed criteria to determine when scientists, institutes, or countries should “graduate” from the IPP program. In contrast, State, which supports a similar program to assist weapons scientists in Russia and other countries, has assessed participating institutes and developed a strategy—using a range of factors, such as an institute’s ability to pay salaries regularly and to attract funding from other sources—to graduate certain institutes from its program. Even so, we found that DOE is currently supporting 35 IPP projects at 17 Russian and Ukrainian institutes that State considers to already have graduated from its program and, therefore, no longer require US assistance. (GAO-08-189 7)

This clearly demonstrates disconnect between various US government departments and their NP programs. More work needs to be done to evaluate whether expanding the DoE program beyond the FSU is needed, and if so, whether DoE needs coordination with a similar DoS program.

Security Clearances

Security clearances are utilized by all governmental organizations. One vulnerability addressed by the Nebraska Chief Medical Officer, Dr. Joann Schaefer, involved security clearance processes she had observed between the HHS, DHS, and DoD. There is currently a lack of coordination and collaboration between these organizations. Security checks are done independently of each other and under the direction of their own department's criteria. What information requires security clearance is at times unknown by state officials. Repetitive

clearance checks utilize resources unnecessarily, and the varying criteria for clearances can be improved upon. The preceding statement can be designated as the scope and significance of the problem and the justification for a suggested system change; it would be more efficient to streamline processes. When asked who, in Dr. Schaefer's opinion, would be the most logical choice to lead the security clearance checks, she stated that DHS would be her choice based on the department's mission and role in NP efforts.

The clearance vulnerability perpetuates when there is a change in a given state's governor and new appointees come on board. The knowledge level of what security information requires clearance can be improved upon: many new appointees are unaware of the security clearance process, as well as the timeline involved. Sensitive security information may center on developing threats, emergency response plans and general public health needs. State officers and their staff(s) are responsible for addressing and developing strategies to potential threats with their respective governors. Sensitive information needs to be collaborated responsibly, in accordance with an effective security clearance system. This has been an identified weakness for years, and yet no consistent reasonable solution has come forth from a federal agency in charge of issuing clearances. It would be ideal to have the right organizations and departments aware of developing security threats to be able to collaborate in an efficient manner and offer their strengths for the creation of an effective comprehensive strategy.

In Dr. Schaefer's opinion, HHS' most important role in the NP of WMD centers on having key public health staff and employees at the "information-sharing table." Clearances should be set at a minimum of "secret" and interstate information analysis should be completed.

“We are only as strong as our weakest state” (Schaefer); successful WMD NP efforts depend on the communication and execution of the federal mission at the state level. This information is further relayed to additional sectors. Communication between sectors (local, state, federal, health, law enforcement, etc.) increases the probability for successful WMD NP efforts.

Health and Human Services: Collaborative Nonproliferation Efforts

The following section will provide a consolidated view of the formal roles and interactions between HHS and various US government organizations regarding NP and CP of WMD. The US Department of HHS has a significant role to increase the probability of successful NP and CP efforts. Along with its independent endeavors, the collaboration HHS has internally as well as with a number of US governmental departments ensures the development and implementation of interactive, encompassing national CWMD strategies. HHS’s overall mission provides holistic direction for each state’s efforts. Coordination with governmental organizations allows for the successful implementation of a national comprehensive strategy, while these efforts are primarily regulated and carried out at the local and state level.

HHS is involved in all WMD agents: nuclear, chemical, biological, and radioactive. HHS has a special interest in the nonproliferation of biological material, including such hazards as: anthrax, botulism, cholera, Ebola virus hemorrhagic fever, E. coli, Plague, and smallpox

(Emergency.cdc.gov). Specific monitored chemical agents include: acids, arsenic, chlorine, mustard gas, nerve agents (Centers for Disease Control and Prevention). Radioactive proliferation activities may include: contaminating food or water or spreading radioactive material using explosives, wind currents, or natural traffic patterns (Emergency.cdc.gov). Monitoring of nuclear material includes nuclear blasts and dirty bombs (Emergency.cdc.gov).

According to Chief Medical Officer for the State of Nebraska Dr. Joann Schaefer, the state branches of HHS coordinate with three main organizations: DHS, US Marshall Services, and the DoJ's FBI of Nebraska and Iowa. HHS works directly with DHS through its advisor regarding health security threat assessments. HHS collaborates with US Marshall Services regarding the Strategic National Stockpile preparedness for Nebraska. Specific leadership collaboration includes the Lt. Governor. There is a memorandum of understanding (MOU) established for the development of counter measures and prophylaxis efforts between HHS and the FBI of Nebraska and Iowa. Overall, Dr. Schaefer expresses that at the state level, intelligence and alert systems are major responsibilities of HHS in combating WMD, specifically NP and CP efforts. Other collaborative organizational efforts of the HHS are with DoD; HHS and DoD work closely for surveillance and outreach efforts. This entails such activities as coordinating exercises and emergency preparedness.

In the US, the responsibility of surveillance is shared by many organizations, including public health officials from several governmental departments. A major responsibility of HHS regarding NP of WMD involves biosurveillance, defined as the ongoing collection, analysis, and

interpretation of data to help monitor for pathogens in plants, animals, and humans; food; and the environment (Perkins). The specific aims of biosurveillance are to reduce, as much as possible, the time it takes to recognize and characterize biological events with potentially catastrophic consequences and to provide situational awareness (Perkins).

Dr. Schaefer also mentioned two collaborative programs HHS is involved in: the BioWatch Program and the Early Warning Infectious Disease Program (EWIDS). HHS's responsibility with the BioWatch Program (funded and overseen by the DHS) is to provide early warning of a mass pathogen release. HHS is also a partner in the EWIDS, whose purpose is to collaborate with states on the international border to report the prevalence of urgent disease cases.

Dr. Dana Perkins, chief of the Biological Weapons Nonproliferation & Counterterrorism Branch at HHS, referenced the BWC as an important HHS collaborative activity which specifically relates to biological WMD material. The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, more commonly known as the BWC, was established in 1972. It effectively prohibits the development, production, acquisition, transfer, retention, stockpiling and use of biological and toxin weapons and is a key element in the international community's efforts to address the proliferation of weapons of mass destruction (The United Nations Office at Geneva 1).

BWC is led by DoS as well as the NSC, and takes place every five years. The most recent convention in 2007 received the largest numbers of attendance in history. The success can be attributed to the topic choices which were pertinent to the parties in attendance, including the Joint Staff, DTRA, OSD, and Global Affairs. The principle BWC states adhere to is never in any circumstances to develop, produce, stockpile or otherwise acquire or retain biological agents or weapons, excluding materials used for prophylactic, protective or other peaceful purposes (The United Nations Office at Geneva 1).

The BWC plays an important role in bringing biological weapon issues to the attention of the White House. The BWC looks for a common ground among parties involved. It provides an important example of how deliberate communication and collaboration efforts, when framed to incorporate the goals and interests of all parties involved, can yield positive strategies and results. Although formal meetings occur every five years, experts meet twice a year to discuss "politically binding" (versus legally binding) agreements.



Figure 6: BWC Policy Development Cycle: The United Nations <unog.ch>

Another deliberate collaborative effort banning an entire category of weapons is the CWC. The first convention was held in 1993, but did not enter into force until 1997. Parties to the CWC agreed not to develop, produce, stockpile or use chemical weapons. In January 2007, there were 181 States party to the CWC. Notably absent, however, are Egypt, Israel, North Korea, and Syria (Carter 1107). Like the BWC, parties are allowed to use this technology for peaceful purposes (termed “dual use” technology). In addition, they promised to destroy their existing chemical weapons within 10 years of the Treaty entering into force (Murphy 469). Both Russia and the US, however, have sought extensions for the completion of this task. Russia relies heavily on foreign aid to fund the destruction of its chemical weapons, which leaves very little of the project domestically funded. As of September 2006, Russia had destroyed only about 3 percent of its stockpile of 40,000 metric tons of chemical agents. Unfortunately, the US has not fared much better and has faced some serious obstacles because of environmental (and other) regulations. In January 2007, 40 percent of the US chemical weapons stockpile of 32,000 tons had been destroyed (Carter 1107).

EXPORT CONTROLS: GAPS AND OVERLAPS

Export controls are essential to US national security, foreign policy, and economic growth (US House 1). They encompass two types of activities: they prevent the sale or trade of goods, services, or technology related to WMD, and they include enforcement initiatives to investigate and prosecute export control violations. The US exports billions of dollars in arms and dual-use items to its allies and trade partners every year (GAO “Export Controls” 2010 1). In Fiscal Year 2009, DoC processed 20,351 dual-use item export license applications. In the aggregate, these applications were valued at approximately \$62.4 billion (US House 2).

In 2007, the US export control system was declared a high-risk area on ensuring the effective protection of technologies critical to US national security interests (GAO “Export Controls” 2010 1). The numerous organizations involved, such as DoD, DoC, DoE, Treasury, DoS, DHS, and the IC, bring valuable experience and expertise to the export control system, but differing missions and a lack of communication between departments has created an overly complicated [system that] contains too many redundancies (Obama 30 August 2010). In August 2009, President Obama requested comprehensive analysis of the US export control system and found that “the US export control system has a complicated structure involving multiple agencies with separate control lists, leading to jurisdictional confusion, and has hindered the ability of allies to cooperate with US forces... The current process relies on separate information systems,

some of which are paper-based, which are not accessible to all agencies involved” (GAO “Export Controls” 2010 3).

In August 2010, President Obama announced an extensive export control reform (ECR) initiative. The end goal is to have a *single* control list administered by a *single* licensing agency operating on a *single* information technology system and enforced by a *single* primary export enforcement coordination agency (Hirschhorn 2). A 2010 report by the GAO analyzed the export control systems of Australia, Canada, France, Germany, Japan, and the United Kingdom. The report confirmed that five of the six US allies have a single agency responsible for the country’s exporting system; the exception was France (GAO “Export Controls” 2010 12). According to Deputy Under Secretary Daniel O. Hill, ECR is about partnering with allies and enlisting industry to ensure sophisticated technology can be traded amongst friends, but kept away from our enemies (Hill 2). The proposed reform will occur in three phases; the first and second phases will address the control lists that contain information about the export items restricted and seek to combine them into a single list. The third phase would require congressional action in order to create a single licensing agency (GAO “Export Controls” 2010 4).

Control Lists

Accessible, transparent descriptions of export items subject to control are essential because all other aspects of our system are contingent upon what we control (Obama 9 December 2011). An item’s placement on export control lists dictates the measures an exporting

company must take in order to receive an export license. DoC and DoS are the two departments principally responsible for the issuance of export licenses, and each deals with certain categories of export items. The CCL is comprised of dual-use items and administered by DoC. Dual-use items are those that serve both a commercial and military purpose like truck parts and computers. The CCL is broken into ten categories that are further subdivided into five groups, which contain individual item listings. The Export Control Classification Number (ECCN) is based on a particular item's category and group number. For example, CCL Category 3: Electronics is divided into five product groups: (A) Systems, Equipment and Components, (B) Test, Inspection and Production Equipment, (C) Material, (D) Software, and (E) Technology. An export item that is in Category 3, Group (A) Electronics, Product Number ## would have an ECCN of "3A##."

Within the ITAR is the United States Munitions List (USML), which contains only military items and is managed by DoS. The USML classifies items based on "design intent". This categorization method is outdated and no longer serves its original purpose. In the past, most items used by the military were designed specifically for the military. Now, however, most military objects are produced by the commercial sector. In addition, design intent is difficult to determine because it is both "unpredictable and opaque" (Hirschhorn 2).

The USML and CCL have different definitions, levels of specificity, and structures (Export.gov, Controlled Items on a Single List). The two control lists take fundamentally different approaches to defining controlled products (Obama 30 August 2010). These lists are structured differently and even have different definitions for commonly used terms such as

“technology” and “specially designed.” The inconsistencies existing between the lists lead to confusion as to which department the exporting company should file its license application.

Companies may submit requests to either the DoS or DoC for an initial assessment as to which list their export items belong. DoS may issue a Commodity Jurisdiction Request, and the DoC may offer a Commodity Classification Decision. As of July 2010, the median processing time [for Commodity Jurisdiction Requests] was 36 days, down from 118 days in 2002 (GAO “Export Controls” 2010 5). It should be noted that only DoS can issue an official classification determination; DoC’s Commodity Classification cannot be relied upon because they are not official.

Defense Secretary Gates also recognized these inconsistencies, and the DoD is currently leading the reform effort, comprised of eighteen interagency technical teams, to make the CCL and USML more consistent and transparent (Obama Announces First Step). He stated:

If the application of controls on key items and technologies is to have any meaning, we need a system that dispenses with 95 percent of the ‘easy’ cases and lets us concentrate our resources on the remaining 5 percent. By doing so, we will be better able to monitor and enforce controls on technology transfers with real security implications while helping to speed the provision of equipment to allies and partners who fight alongside us in coalition operations (Hirschhorn 1).

Within the picture below, the left-hand graphic shows the current system, while the right-hand image depicts the proposed US export system.

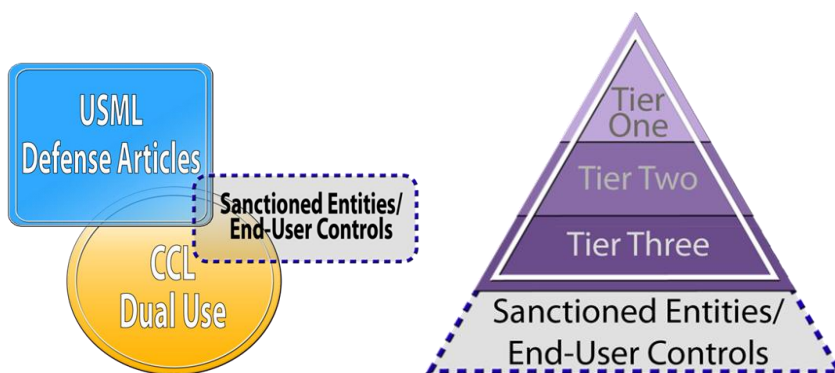


Figure 7: Current vs. Proposed Export Systems <export.gov>

The USML and CCL would be integrated to form a single *positive* list with *tiered* items.

Reformers also seek to establish a bright line between the two lists so that it is clear whether an item belongs on the CCL, and subject to the EAR, or on the USML, and subject to the ITAR. In addition, the lists will be made into parallel structures so they can eventually be merged into a single list. This reorganization predicts that 74 percent of the 12,000 USML licenses would be moved to the CCL or decontrolled (Obama 30 August 2010).

The ECR Initiative will change the criteria for the items controlled under the lists. For the lists to become *positive* means that items will be identified by objective, technical characteristics, such as horsepower or microns, rather than broad, ambiguous terms (Obama 30 August 2010). Next, each item will be assigned a *tier* according to its relevance to national security and availability outside the US and its allies. Tier 1 items are either WMD-related or almost exclusively available from the US and provide a critical military or intelligence advantage (Hischhorn 3). These items will require an export license for virtually all destinations. Tier 2 items are those almost exclusively available from regime partners or adherents and either provide

a substantial military or intelligence advantage or make a substantial contribution to the indigenous development, production, use or enhancement of a Tier 1 or 2 item. Tier 2 items will require a license only for certain end-users (Hirschhorn 4).

Items subject to the Third Tier will only require a license for some destinations. These items either more broadly available and provide a significant military or intelligence advantage, or make a significant contribution to the indigenous development, production, use, or enhancement of a Tier 1, 2, or 3 item (Hirschhorn 4). Additionally, an item that does not fit into a tier but must be controlled because of international obligations will be categorized as Tier 3 (Federal Register 76937). For example, the Missile Technology Control Regime accounts for approximately 25 percent of items controlled by the US (GAO “Export Controls” 2010 23). It should also be noted that although an item is subject to less stringent requirements concerning export, there will be new limitations imposed on re-exports (Obama 30 August 2011).

After several months of efforts, on December 9, 2010, the DoC published proposed EAR license exceptions, License Exception Strategic Trade Authorization (STA) (Federal Register 76653). These exceptions would loosen regulations for exports, re-exports, and in-country transfers with little relevance to national security. In addition, items with “a greater risk of diversion to unauthorized end-uses... would also impose certain notification, destination control statement and consignee statement requirements” (Federal Register 76654). STA includes only Tier 2 and Tier 3 items; Tier 1 items, such as missile technology and chemical weapons, are excluded from the exceptions. The following day, on December 10, 2010, proposed ITAR

revisions to a single USML category, Category VII concerning “Tanks and Military Equipment,” were published (Federal Register 76930). The Federal Register solicited comments from the public and, at the time of this writing, is processing those comments.

License Processing

Once the exporter files its license application, the appropriate US Government Department must review the application for approval. Only certain US Government Departments may grant an export license. As mentioned above, DoS deals with licenses for military items, and DoC handles dual-use export items. In addition, DoE addresses licenses for technology related to nuclear material, and the Nuclear Regulatory Commission, which is an independent agency, deals the export licenses for uniquely nuclear materials. DTSA, under DoD, uses its expertise of the US defense industry to review and provide recommendations for approximately 30,000 license applications every year. Although DTSA cannot officially issue export licenses, its analysis allows DoS and DoC to process license approvals or denials much more quickly.

Each licensing entity has its own application form. Departments use different IT systems, which are incompatible. Thus, license applications cannot be shared between departments. This problem leads to unnecessary duplicative efforts by the exporting community. A White House Press Release stated, “[No Department] sees the others’ licenses, and each operates under unique procedures and definitions, leading to gaps in the system and disparate licensing requirements for nearly identical products” (Obama 30 August 2011). Currently, DoS, DoC, and the Treasury are

producing a single application form because they cannot transfer applications between licensing entities.

Under the current system, the exporter must submit a detailed product description and the names, addresses and contact information about most parties to the transaction (Federal Register 76656). While the exporting company waits for license approval, it incurs the costs associated with uncertainty and delay before it can make a sale. In many instances, approval is granted only with conditions that may impose notification requirements or end-use restrictions (Federal Register 76656). Occasionally, these departments disagree as to the classification of an item or whether an export license should be granted. The dispute settlement mechanism currently in place is headed by the NSC and is an extremely inefficient and time-consuming process.

Under the proposed STA, however, the exporting company seeking to export a CCL item would simply note the category of the item and inform the purchaser of certain obligations associated with the shipment. The exporting company is allowed to send the items once it receives a statement from the purchaser confirming the receipt of related export control information, a promise to comply with the EAR, and a commitment to provide information about the transaction to the US government upon request (Federal Register 76657).

Export Enforcement

Export enforcement investigates and prosecutes companies and individuals that have violated export control laws. Individuals, supervisors, and companies that commit violations of

these regulations are subject to fines, imprisonment, or denial of export privileges. Penalties are assigned under the facts and circumstances of each particular case (Don't Let This Happen to You 33).

One recent case resulted in four business owners pleading guilty to illegally exporting defense items, including radars and smart weapons, to Chinese government-owned entities. Three were sentenced to prison, and all had to collectively forfeit almost \$400,000, which represents their revenue from the illegal exports (GAO "Export Controls" 2006 1).

The US export control system places the burden of compliance on the exporting community. Industry compliance is the first and best line of defense in protecting our national security (Don't Let This Happen to You 1). After all, companies have thorough knowledge of export products, end-uses, and customers. For this reason, government officials conduct thousands of industry outreach activities every year. The hope is that outreach activities will result in "companies self-disclosing violations, tips and reports of potential violations by others, and cooperation in investigations and intelligence gathering" (GAO "Export Controls" 2006 10). A company that makes an inadvertent mistake regarding export laws is allowed to make a voluntary self-disclosure (VSD). VSDs are considered as mitigating factors in the determination of fines and punishment (Don't Let This Happen to You 5).

Enforcement entities have "overlapping and duplicative authorities...creating redundancies and jeopardizing each other's cases" (Obama 30 August 2010). For example, DoJ does not share the results of prosecutions with DoS and DoC (GAO "Export Controls" 2010 14).

The outcomes of these cases is important because without information on the outcomes of criminal cases, export control agencies cannot gain a complete picture of an individual or a company seeking export licenses or discover trends in illegal export activities (GAO “Export Controls” 2006 22). Since this GAO report, the DoJ set up an Export Enforcement Initiative in 2007. However, investigative teamwork was still inadequate. On the other hand, investigating agents executed search warrants based on a license determination that the equipment was controlled for missile technology and antiterrorism purposes. Subsequently, Commerce determined that no license was required for this equipment, and thereby the case was closed (GAO “Export Controls” 2006 16).

These problems exist because of IT capabilities and the culture within these enforcement agencies. Because the agencies do not operate on the same IT systems, the information gathered by the various agencies cannot be shared between Departments (Obama 30 August 2010). The ECR Initiative seeks to use DoD’s USXPORTS to be the single system used across Departments. No formal agreements exist to create protocol for the organization of investigations. Often, jurisdictions and responsibilities overlap. A November 9, 2010 Executive Order created an Export Enforcement Coordination Center, which is made up of members from DHS, DoS, Treasury, DoD, DoJ, DoC, DoE, ODNI, and other executive branch departments, agencies, and offices determined by the President. In the order, President Obama declared, “Export controls are critical to achieving our national security and foreign policy goals” (Obama 9 November 2010).

The EECC was created to share intelligence and law enforcement information regarding export control violations.

Restricted Persons and Entities Lists

In the determination of which type of license is needed, or whether a license should be issued at all, licensing agencies also examine who will be receiving the export items and how they will be used. Certain lists contain information of suspect persons and companies and impose end-use or end-user limitations. DoS, DoC, and the Treasury all maintain lists of suspect persons and companies for export control. Inclusion on a particular list means certain obligations for the government, the exporting company, and the receiving person or entity.

DoC maintains the Entity List, Unverified List, and Denied Persons List. If a party to the transaction is listed on the Entity List, the exporter must take additional precautions to obtain a license. The Unverified List describes end-users that the BIS has not been able to verify in previous transactions. For this reason, an exporter must use due diligence before conducting business with an entity on this list. The Denied Persons list provides information about individuals and companies that have been denied export privileges. DoS is responsible for Nonproliferation Sanctions and the AECA Debarred List. Members on these lists may not participate, directly or indirectly, in the export of defense articles. In addition, DoS has a classified version that only they know and you find out if you try to export to someone of their list. The Treasury “notifies the intelligence community of suspect transactions and provides

intelligence to partner states on suspect entities” (Joint Publication 3-40 B-16). FinCEN maintains intelligence on financial activities of front companies or other entities suspected of proliferation. Parties included on the Specially Designated Nationals and Blocked Persons List may be prohibited from export transactions based on certain international obligations.

A major oversight in current ECR is that it depicts “Sanctioned Entities/ End-User Controls” as a single program operating within a single entity. In practice, three different US government Departments maintain six different license restriction lists. Sanctioned Entities/ End-User Controls, pictured in Figure 7, do not undergo any transformation during current ECR. As the ECR Initiative moves toward a single licensing agency, DoD needs to ensure that the valuable intelligence provided by the DoC, DoS, and the Treasury remains available for use in export restriction lists.

Recent ECR has created a “Consolidated Screening List” that publishes all these lists under a single heading. In a particular format, this list is over 4,000 pages in length. Due to the dynamic nature of intelligence, all six original lists are continuously updated. The Consolidated Screening List warns exporters that it may not contain current information, and confirmation should come from the original, Department restriction lists. The warning reads:

If one of the agency lists noted above has been updated and this downloadable consolidated list file has not yet been updated, the date on the top row in these files will not match the date of last update on the appropriate agency website. If this occurs, the user must check the appropriate agency webpage for the most current party information. If a party to your transaction matches a party name on the consolidated list, the user must check the official publication of restricted parties in the Federal Register or the official lists of restricted parties maintained

on the web sites of the Departments of Commerce, State and the Treasury to ensure full compliance with all of the terms and conditions of the restrictions placed on the parties on this list (Consolidated Screening List).

The IT systems of the DoC, DoS, Treasury, and DHS must be synchronized. Once these systems are compatible, information between these Departments will become more permeable. Until this synchronization occurs, however, the Consolidated Screening List should be removed and each of these Departments should post all six license restriction lists on their respective websites to increase transparency.

COOPERATIVE THREAT REDUCTION: GAPS

CTR is the brainchild of former Senators Sam Nunn and Richard Lugar. In 1991, they authored the Nunn-Lugar Act, which formally established the CTR program as a way to aid FSU states safeguard and dismantle their WMD-related materials and delivery systems (DTRA.mil). The program has had quite a lot of success, as noted in Figure 7 below. However, this success does not mean that the program has remained stagnant since its inception; within the past two years, it has been reconsidered and recommended for expansion beyond its original scope, both in the size of the program and its mission. In 2009, the National Academy of Sciences

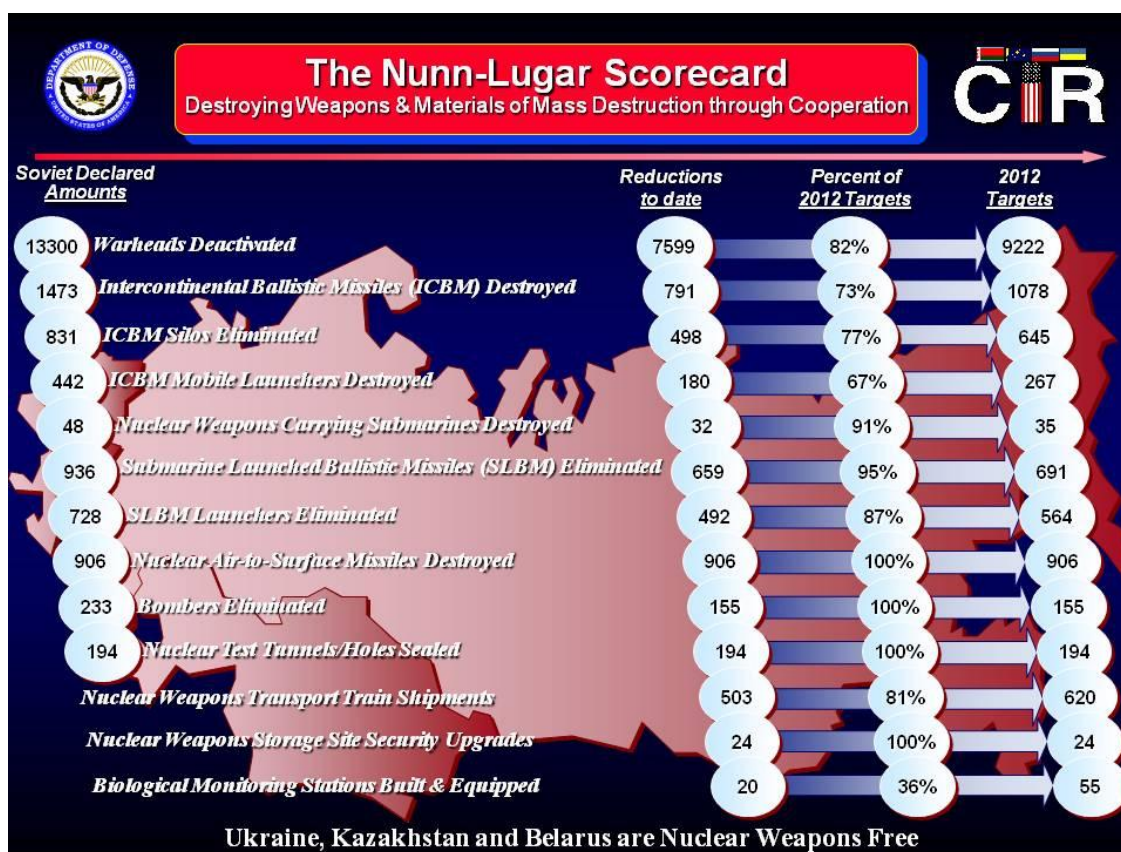


Figure 8: CTR Scorecard <dtra.mil>

Congressionally-mandated report “Global Security Engagement: A New Model for Cooperative Threat Reduction”, recommended an expanded Nunn-Lugar model of global security engagement to counter the 21st century terrorist threat (DTRA.mil). This ultimately meant that CTR would be expanded to nations beyond the FSU, as Albania became the first non-FSU state to request CTR assistance in 2004. This was obviously welcome news as it was recommended for worldwide expansion in 2008 (Carter-Joseph 9), but it appears that it will slowly spread in order to cater to individual nations, especially those with already existing WMD-related stockpiles and infrastructure.

The expansion of CTR meant the creation of BTR, which sought to dismantle biological WMD material and infrastructure within the FSU. DTRA, as DoD’s executing agency for BTR, has lead the work in nations such as: Russia, Kazakhstan, Uzbekistan, Georgia, Azerbaijan and the Ukraine (DTRA.mil). DTRA coordinates the closest with DoS on both CTR and BTR since DoS has their own division, ISN/CTR; they also work with DoE on the detection of WMD-related material, notably nuclear material. DTRA also coordinates with HHS on BTR, which makes sense considering HHS’ coordination with the CDC as well as USAMRIID. This coordination has been very effective as both programs have had success over the past two decades, but it does not mean that all coordination on CTR has been cohesive.

As of 2004, the coordinator for threat reduction programs primarily implemented by either DoD or DoE was the NSC. DoD and DoE both prepare their own individual strategies to implement their threat reduction programs, but there is no government-wide strategy that

integrates them with one another (GAO “WMD” 2005 7). Furthermore, the NSC [and DoS] creates plans in response to this problem, but they either focus solely on one agency or on one geographic location (GAO “WMD” 2005 7). It was apparent that the NSC was not fit to be the coordinator of these programs if it was unable to fulfill its mission. This is reflected, although indirectly, in a recommendation made by the CPRC in 2009 for the need for coordinated cooperation efforts through a coordinating committee or group (CPRC 6). As of the time of writing, there has not been a follow-up review on the CPRC and the recommendations made back in 2009. Steps to mitigate this issue may have been taken, but there has not been any explicit confirmation of this.

Up until 2004, there had also been a failure on the part of the US government as a whole to remedy this problem, as the GAO identified six Congressional acts and independent reports as of 2004 whose mission it was to find a suitable interagency coordinator for threat reduction programs that were unable to produce a feasible recommendation. While there has not been a recent GAO report to follow up on these findings, experts at DTRA and SCC-WMD state that steps have been taken on the part of DoD to mitigate this problem, but the specifics are unknown at this point because the information is classified. One potential solution (if it has not already been implemented) may involve senior officials from both DoD and DoE coordinating a regular meeting in order to discuss each department’s threat reduction programs since they have more intimate knowledge of their own programs. It would cut out an unnecessary third party and allow the two departments to talk to each other directly.

COUNTERPROLIFERATION: GAP/OVERLAP

CP, as defined by the DoD dictionary, is “those actions taken to defeat the threat and/or use of weapons of mass destruction against the United States, our forces, allies, and partners”. The National Strategy to Combat Weapons of Mass Destruction covers a variety of initiatives. Six out of the eight mission sets given within the National Strategy, are located within the larger category of counterproliferation. The eight missions were created to dissuade, deny, destroy, interdict, defend, and respond. Moreover, with six sub-categories within CP, it is evident that numerous interagency efforts are required. As the National Strategy states, “countering proliferation of WMD requires comprehensive strategy involving strengthened NP efforts to deny these weapons of terror and related expertise to those seeking them.” Furthermore, because CP is part of a larger military strategic goal that ensure[s] the United States [and] its Armed forces, allies, partners and interest are neither coerced nor attacked with WMD, counterproliferation efforts within government organization are becoming more and more integrated (Pena 7). With such a high demand to provide quality security, the US government allocates an increasingly large amount of monetary funds to facilitate this effort.

The US government urges states that are most susceptible to the proliferation of WMD to work hand in hand with the US organizations, in an attempt to reduce and reverse certain WMD programs through the counterproliferation effort known as CTR, also referred to as the Nunn-Lugar program (Mazanec 9). This program was created to eliminate WMD programs of hostile

states or terrorist organizations by means of tracking the flow of materials, expertise, and technology, notably in the FSU. The successful implementation of CP can only occur, if and when, law enforcement, military, and other surreptitious means are available to help enforce these initiatives. Furthermore, efforts such as PSI, a non-binding international initiative to stop the trafficking of WMD, their delivery systems, and related materials to and from state to non-state actors (Meyer III 18). The only way to accomplish PSI's initiatives is for the proper enforcement to maintain that certain checks are being made and guidelines are being followed. Fortunately, PSI efforts have been rather successful; currently there are 96 nations who rely on PSI efforts to help secure their borders and more importantly, their own safety.

Gap

Within the DoD, there are gaps that could hinder the full implementation of CP activities. In a 2010 GAO Report on the effectiveness of DoD's CP activities, the committee found budget tracking of these activities is inefficient because gaps identified by the Joint Staff and other DoD sources have not been fully integrated into its budget process; some of these gaps are identified through CPRC reports. Such reports identify information about requested funding for CP programs, but the CPRC lacks essential data preventing DoD to act on such requests. Identifying which resources are only for CP is extremely difficult because many programs span multiple mission areas. For example, 43 out of 228 programs supported at least two mission areas, and 12 supported more than two mission areas (GAO "WMD" 2010 5). Another gap the CPRC report identifies is that budget requests for CWMD do not fully relate to appropriations and

expenditures (GAO “WMD” 2010 8). Where the CPRC report provides information regarding requests, it does not provide information regarding budget authority or actual outlays, which proves difficult to allocate proper funding in order to prioritize programs. Previously mentioned gaps allude to a problem where DoD CP resources are not clearly assigned with proper strategies. DoD programs do not provide clear information as to how such resources are strongly related to combating WMD in support of CP strategies. Information is limited within and outside of the DoD as to how their resources are improving CP efforts within CWMD strategies. The limited information is in part because of the DoD’s inability to identify which resources go directly to CP efforts, but also the gaps in CP capabilities do not align with the resources provided.

USSTRATCOM developed the Joint Capabilities Document, which identifies 35 CWMD capability gaps across all eight mission areas. DoD has used the Joint Capabilities Document as input into the budget process, but the document’s role is to prioritize requirements, not to calculate the costs to fulfill them (GAO “WMD” 2010 9). There are two additional documents, the Joint Staff Capability Gaps Assessment and the Combating WMD Strategic Global Assessment which, when combined with the 35 capability gaps, identify 85 DoD-wide gaps. Efforts to align resources with identified gaps should be integrated into DoD’s budget process. The 2009 CPRC report shows “what mission areas the various programs/program elements are responsive to, it does not show what functional capability gap they are designed to mitigate [...] it

is also difficult to determine how vigorously these gaps are being addressed” (GAO “WMD” 2010 10).

Overlap

Overlap has been widely noted within the IC, particularly between the NCPC, which coordinates all IC related proliferation Intel, and with CIA’s newly established Counterproliferation center. The NCPC was established after 9/11 to increase coordination on proliferation efforts within the IC and establishing separate Counterproliferation centers dilutes coordination efforts. With the increased number of states with WMD capabilities, the need for more oversight becomes apparent. However, according to experts from the Center for Strategic and International Studies, the increased intelligence monitoring and operation undertaken by the new CPC will overlap with work already being done by the National Counterproliferation Center and other national intelligence agencies monitoring nuclear proliferation and WMD development (Bulley). The CIA also announced that the new CPC will combine both analysts and operatives to increase CP efforts. Given this contradiction and the fact that the CPC is less than a year old, further inquiry into how the two centers interact is necessary to further understand US CP intelligence gathering methods and functions.

RECOMMENDATIONS

Based on the findings above, the team has the following recommendations.

As the ECR initiative moves toward a single licensing agency, DoD needs to ensure that the valuable intelligence provided by the Departments of Commerce, State and the Treasury remains available for use in export restriction lists.

The IT systems of the Departments of Commerce, State, Treasury, and Homeland Security must be synchronized. Once the IT systems are compatible, intelligence between these Departments will become more permeable. Until this synchronization occurs, however, the “Consolidated Screening List” should be removed and the Departments of Commerce, State, Treasury, and Homeland Security should post all six license restriction lists on their respective websites to increase transparency.

Interstate security clearance checks and information-sharing should be coordinated among the HHS, DHS and the DoD to aid in the development of efficient and comprehensive threat reduction strategies.

DoD should perform funding assessments for CP versus NP. The language in the current GEF is trying to balance funding between CP and NP more effectively, but this effort should be institutionalized to ensure resources are properly allocated.

The IC should reaffirm the emphasis on motives and intent. The NCPC compliments current intelligence with long-term proliferation intentions of state and non-state actors, but this is not wholly reflected across all IC agencies.

SUMMARY

In summary, the team discovered four gaps within the USG. First, the IC currently focuses on current intelligence, causing a lack of insight into predictive analysis of motives and intent for proliferation. Second, DoD focuses much of its resources on CP at the expense of NP; DoD needs to allocate funds to both CP and NP efforts. Third, DoD, DHS, and HHS lack reciprocity for security clearances and information-sharing. The team suggests a streamlined, collaborative security clearance system to increase efficient and comprehensive threat reduction strategies. The final gap is that coordination on planning, programming, and budgeting is not adequate. Although a report to follow up on this gap has not been released recently, DoD has taken steps to mitigate this problem. The team has not been updated as to the specifics because the information is classified.

The team also found three overlaps within the USG. First, several organizations take part in export control. There is often disagreement as to the classification of an item or whether an export license should be granted or not, and the current dispute settlement mechanism is not adequate. Second, the consolidation of the restricted entities and persons list serves only as an additional list for exporters to consult rather than a true consolidated list. The inefficiency of this list costs exporters valuable time and money. The final overlap is that separate CP intelligence centers dilute coordination efforts. The creation of the CIA CP Center weakens what the ODNI is trying to do to centralize proliferation intelligence.

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Adam Ramirez was born on September 24, 1985 to parents Laura and Dan in Omaha, Nebraska. He graduated from Omaha Central High School in 2004. While attending Central, he was a member of National Honor Society, Spanish National Honor Society, DECA, Math club as well as a four-year letterman in golf. Adam graduated with his Bachelor of Arts in Politics from New York University in 2008, with an emphasis on international politics and foreign policy. Previously, Adam worked as a summer intern for the New York City Department of Small Business Services and in the Washington office of former US Senator Chuck Hagel. He is currently working on his Masters of Science in Political Science at the University of Nebraska at Omaha. In his spare time, he enjoys playing golf, reading, watching movies and attending

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Carla Seiwert is a senior at Creighton University where she is pursuing an undergraduate degree in Environmental Sciences, with a focus on Organismal Populations, and minor studies in Political Science. She plans to graduate in May and has been selected to work for the Peace Corps. Carla grew up in Bloomington Minnesota, with her parents and two sisters. She spent a month in the Dominican Republic where she lived with and built water filters for local residents. At Creighton, she participates in research regarding spatial stream diversity, and is in the process of creating a university club for the Environmental Science majors. In the future, Carla hopes to pursue a career as a Limnologist, researching major river systems around the world.

Mamie Sparacino is currently a junior attending Creighton University in Omaha Nebraska. At Creighton University, Ms. Sparacino tends to rigorous school work, while simultaneously meeting the demands of Creighton's Army ROTC program. Ms. Sparacino's participation in Creighton's Army ROTC program has allowed her to gain valuable knowledge, as well as, vital leadership skills. After all, it is because of Ms. Sparacino's participation in Army ROTC that she decided to learn Arabic and study the religion of Islam. Prior to Ms. Sparacino's experience in ROTC, she endeavored to exercise her creative abilities by obtaining a degree in Graphic Design. However, now she aspires to be a Foreign Affairs Officer for the US Army. In Ms. Sparacino's opinion, leadership is leading by example. With that in mind, Ms. Sparacino enjoys playing an active role in her community. She illustrates qualities of a leader through her

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